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AMSTRAD ACTION

ISSUE No.106
JULY 1994
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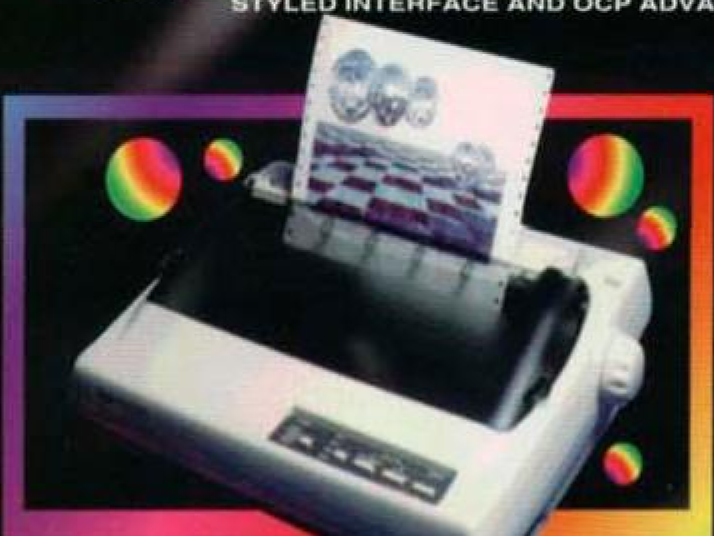
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AMSTRAD ACTION
JULY
ISSUE 106

Line-up

REGULARS

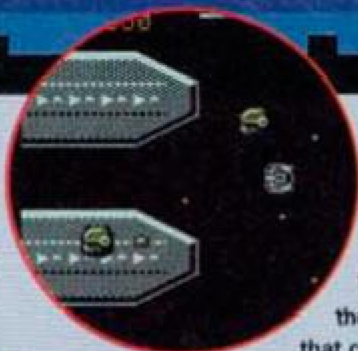
SERIOUS STUFF



LEISURE ZONE



I won't hear a cross word said about it.



Finding *Uridium* tricky? Check out Cheat Mode for some tips.

You haven't got Spot to help you out, but you have got Cheat Mode.





Check out what's on this month's covertape...

Spriting Back

You never knew animation was so easy! This superb slice of software, specially written for Amstrad Action, is more than a mere sprite editor and it's a cinch to use. If you want to create moving pictures, load it up now!

Zynaps

AA readers work hard and play harder. And Zynaps is their kind of a game. Shoot-'em-up action in its purest, most concentrated form. Get blasting.



Great. Which one is your ship, then?

Turn to page 10 for all the details.

Amscene

What's hot and not what's not on the CPC news front.

Lean, mean magazine



AA editor Dave – he's been wearing the same jumper for months now.

Go on, admit it, you've noticed. *AA* is now leaner and meaner than ever before! Er, okay, there's been a page cut. Sorry about that, but before you all start writing in saying, "rip off", the fact is if we hadn't taken this drastic action, the magazine would simply be too expensive to produce, and there wouldn't be any *Amstrad Action* at all.

But to balance things up a bit, we've got a completely new, specially commissioned piece of software on the covertape – Spriting Back. It's a sprite editor with a difference – you don't need to be writing a game to have some fun with it. All is explained on page 10.

And inside, the mag is packed to bursting. All the regulars are intact along with a pretty darned brilliant feature designed to demystify printers. We really have pulled out all the stops to make sure each and every inch of each and every page counts – there's no flabby, page-filling Next Month or Power-Up page from now on, just solid CPC info (well, apart from this column, I suppose).

And we've got some pretty major plans for the mag and the covertape for the next few months – we can't say what yet, but we can say that everyone who's been clamouring for more RPG coverage should be happy. **Dave**

Conventional approaches

More details on the third UAUG annual conventional have been released. The event takes place on June 19th at The Hamilton Room, Church Road, Betchworth, Surrey. Doors open at 10.30 and it'll cost £1 for members, and £1.50 for non-members (but you can get that back if you join the UAUG on the day).

Apart from loads of UAUG bods hanging around, representatives from WACCI and Amstrad Contact will be there there, and you can bet there'll be loads of new software and preview demos on show. Oh yeah, be warned – Simon's planning on turning up too.

Amstrad show interest in buying Commodore

Since Commodore US announced that it has gone into voluntary liquidation, Amstrad has shown some interest in buying the company. Competition is fierce, however, and Amstrad are seen as outsiders when up against companies like Sony and Philips. But you never know... Carlton got the TV franchise for the London area so anything could happen.



Stellar Outpost: despite the name it's not one of Simon's girlfriends.

Stellar reduction

Crystal X Software have cut the price of Stella Outpost (85 per cent, reviewed in *AA*99) to £3.99 on tape and £5.99 on disc (cheques made payable to A Swinbourne). This is now the only titles the company is marketing directly; the rest of it's collection (also reviewed in AA99) is now available from Ultra Software (☎ 0295 730060).

Crystal X can be contacted at 11 Vicarage View, Redditch, Worcester B97 4RF.

Zealand News

Erm, okay, we'll forget the headline – it seemed like a good idea at the time. Anyway, if you fancy some slam dunkin' or some other basketball-type stuff, Antipodean PD library World PD have got their mitts on a new non-PD game called Toni Kukoc's Pro Basketball Challenge. It's an arcade strategy game which'll set you back a rather hefty £14, but that does include postage and packaging.

The library has also moved to accommodate a new, expanded range of Public Domain software, a lot of which World claim are exclusive. Selections cost 50p (but there's postage on top of that). A catalogue is available for £1 for which you also get a newsletter.

Contact World PD, 1/38c Moffats Road, Orewa, Hibiscus Coast, New Zealand. The company asks that you only send international cheques by way of payment.

ELSPA establish video games crime unit

Watch out pirates! Computer crimes watchdog ELSPA has set up a computer games crime unit to clamp down on software piracy and pornographic software.

The new unit will work with local police forces and trading standards offices in an attempt to wipe out illegal copying and obscene material. You might think they won't be interested in the 8-bit market, but most of the major software companies are still very protective about their back catalogues, so beware

ELSPA can be contacted on 0386 830642.

Reaction

It's the section where you are the stars... and we don't mean that we've sent Jeremy Beadle round to take stupid photos of you in embarrassing situations. Reaction is your chance to have your say about the CPC scene. Write to *Amstrad Action*, Future Publishing, 30 Monmouth Street, Bath, Avon BA1 2BW.

Dear AA — SHARES IN PD?

I enjoyed the article on PD software in *AA*104 and I would like to pass on some thoughts on it. One of the things it seems programmers do not like is other people making money from their work. In this I do not blame them and I always feel guilty when I get so much for such a small amount of money. Maybe shareware is the answer, or something like it. What do I mean by that? Well, to my mind, shareware in its present form doesn't work because it relies on people sending money after they have the goods. So why not do what some programmers do and restrict their software to a few PD libraries and charge the libraries a fee for stocking it? I would be willing to pay a couple of pounds for a good program. The £2 could be split 75/25. This means that the author receives a return for his work and the person running the library would have an incentive to make sure their library contained the best software.

That is one idea. Another is that, through your magazine, ideas for programs could be put forward. For example, I would like a program which would help me design a garden. With it I would be able to change the shapes of flower beds, lawns, pathways, etc., and maybe even be able to add colour and change the perspective. This is just one program that I would like which I am sure many others would also like to have and would be willing to pay a small fee for.

One last thing, could you print my address and phone number so that if there is anyone out there who would like to have someone to talk CPC with, they can contact me.
Brian Key, 87 Sweetman's Road, Shaftesbury, Dorset SP7 8EH ☎ 0747 851029.

Certainly some of the stuff we see in the public domain is of a very high quality and it seems a shame the programmers aren't getting any reward for their efforts – though you could argue they know the score when they release their stuff into the public domain. But if there was some financial incentive maybe that would encourage even more people to write quality software. The system you refer to of restricted distribution is known as licenceware in ST, Amiga and PC circles, and has been running quite successfully for some years, despite some claims that it is not keeping in the spirit of the Public Domain ethos. Maybe it isn't, but if it works, is there any harm in that? **Dave**

LICENSED TO SELL PD

Dear AA — LICENSING LAWS

My friend and I want to start up a PD library but we want to know whether we need a licence to distribute stuff in a library 'cos my older brother says we do, but I'm not just going to take his word for it.
Peter Gomori, Cambridge.
PS What happened to Zynaps?
PPS Please do put some RPGs on the covertape.
PPPS What does a CPC664 look like?


Zynaps fell into a time warp.

You don't need any licence to set up a PD library. Anyone can set one up purely by collecting together some PD and then declaring themselves a PD library. **Dave**
PS It fell through a time warp onto this month's covertape.
PPS Right, the votes are in and counted and the result is... we'll have to start looking for some RPGs to put on the covertape.
PPPS A tasteless 6128.

Dear AA — I HAVE A DREAM

First, congratulations on the excellent *AA*104. You seem to have the right balance in your team of staff and contributing writers – especially with the return of Rod in his retrospective of old Arnold.

Yet at the same time the issue was saddening. It referred to the demise of 8-bit computing and the CPC in particular too many times, and sought to find ways of extending the life left to the machine by attempting to improve the status of public *domain*. Oh it may well be a good idea to have PD regulated in a loosish sort of way, and there's a great deal to be said for encouraging software houses to thank the CPC public for its past support by donating deleted titles to those libraries. Good ideas both, but they represent a stay of execution rather than a permanent solution.

Mankind has spent a great deal of time devising wonderful artifacts and almost as much time agonising over their demise. There must have been many a Roman who mourned the passing of the toga and maybe even more Victorians who shook their heads sadly as steam took over from sail on the high seas. If a time traveller from the 30th century were to visit this century, there would be loads of stuff that we think of as technological marvels that he would have forgotten completely. When television came along there were many... (*yes, okay, we get the point – Dave*).

But all is not what it seems to be. The toga lived on, and so did the sail. We mourn and in some of us remember in a more positive way and preserve. And that's what's going to happen on the CPC. In fact it's happening mow. The enthusiasts are taking over and although things may seem to diminish, those enthusiasts will write their software and keep the electronic marvels we sit in front of alive for as long as the machines still function. Steam railways are still being run in part by enthusiasts who never knew the reality of steam. Our offspring, the unborn future, will

contain a few individuals to whom an early home computer is more than a museum piece, but a useful functional thing with a charm of its own. I even think it's possible that one distant day Alan Sugar may try to cast his own brand of unhelpful gloom over the CPC from the darkness beyond the grave.

True, things will get harder when *AA*, the main avenue for CPC communication, yields to commercial pressures and closes. But the future of the CPC is assured, at least for my lifetime. If mine breaks the second-hand market will provide a replacement. And I'll load up *Protext* most days and write my dreams on paper, hoping for one day publication and perhaps recognition.

Finally, keep *AA* with the same creative staff as issue 104, for goodness sake. You only need an Editor, a Hairy Thing, an Art Editor and a few expert contributors. It's better like that, you know it makes sense.
Planet Rogerson, Nottinghamshire.

There was an attempt made on the Amiga PD scene for a voluntary regulatory code a few years back, but it never really came to much, and I doubt whether it'd work on the CPC either, unfortunately.

As for your other points, yes, I think that talk of the CPC's death is premature. Even if *AA* closes there will still be a dedicated band of people who still use their CPCs and who will keep it ticking over. The analogy I like to draw is with pop music. The CPC and the Spectrum are the Beatles and the Stones of the home computer world (the C64 is quite possibly the Monkees, while the Oric is a definite candidate for Dave Dee, Dozy, Beaky, Mitch and Titch) – they defined the genre. Everything that has has come since has been variations or elaborations on the theme. The Amiga and the ST are more like Genesis and Queen (they'll be remembered fondly but with not for any great contribution they made to the form) while these consoles are little more than The Osmonds and Abba (massively popular, but they'll be remembered more for their marketing than anything else). **Dave**

Dear AA — POETIC INJUSTICE

I was scribbling away during a lesson, then I looked at my book. I found that the scribbles had formed words. What a surprise to one and all. These were those words:

When a month has passed away,
There comes an issue of AA,
It is delivered through the door,
I see it lying on the floor,
The packaging open wide,
The magazine jumps from inside,
I pick it up and gaze through,
I look at the words and the pictures too,
I read the tape pages to find out,
What we have got, I give a shout,
"It's great!" echoes down the lane,
I throw a paper aeroplane,
And then Reaction, it's great fun,
Techy Forum's another one,
And if the game's good, game reviews,
Some games you really can't refuse,
I read the other sections too,
(I suppose that's what readers do),
I hope you found this poem good,
Send me a prize, I think you should.
Thomas Lovell, Peterborough.

I feel that the underlying themes here are nicely underpinned by a scatological metre which reinforces the impression that the author really isn't destined to be poet. Like the sentiments, though. But no, you can't have a prize. **Dave**

Dear AA — IT'S HUGE

Last month (*AA104*) in Reaction you made a plea for more info on the German hard drive. It just so happens that the now defunct *Amstrad Computer User* magazine ran an article on it in its February 1991 edition.

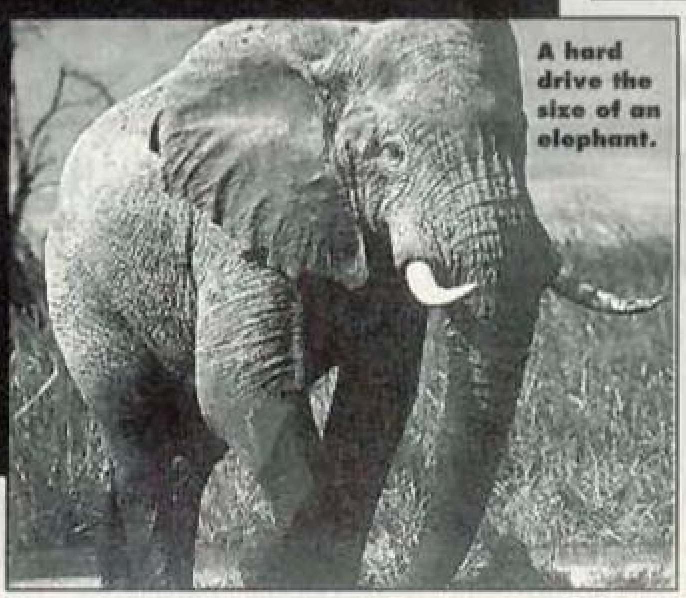
The drive was called the Dobbertin HD20 and apparently had a 20Mb capacity (as the name suggests) and sported the rather heavy price tag of £400. The *ACU* reviewer couldn't provide a truly in-depth review because the instructions were all in German, but he did provide some info. The HD20 was supplied by a chap named Fritz Obermeier and, apparently, was about the size of an elephant on steroids. Despite its bulk it was a nifty piece of equipment. Like most hard drives it split itself into several small logical drives, four in this case; D, E, F and A. It also came with several useful new bar commands supplied on ROM, and, when tested, would install and run successfully many popular programs (*MEX*, *Protext*, etc).

Now for some questions:

1 In your opinion, what is the best football management sim on the 464?
2 Is the *GAC* manual for the covertape program still available? If not, any chance of getting one printed? Alternatively, where can I obtain one, and at what price?
3 I am having difficulty in getting *Zapp Assembler* to accept some legitimate commands. Some of the commands are `db 0`, `db &21`, `dw 1`, `limit &xxxx`, `rst 3`, `defb "string"`, and `defb &ff`. This isn't another problem with labels, I'm fine with them (so don't throw a wobbly Simon, I'm having a serious problem). All these commands have appeared in various past *AA*s.

The magazine has improved dramatically over the years, especially the quality of the covertapes, so keep up the good work.
Andrew Toft, Fife.

1 All of the *Football Manager* games are pretty good but *Football Manager 2* (Addictive) just about comes top of the league. Relegated to the scrap heap are League Challenge (CodeMasters) and The Match (Cult).
2 Unfortunately the *GAC* manual is out of print now. Your best bet is to try and get hold of one second hand. Have a look at the For Sale ads on page eight.
3 These command differences have been a real problem, haven't they? There are some major differences, and anyone missing some issues since its appearance on the tape won't know the full story. The 'db' command has been replaced with '`defb`', though '`db "string"`' turns into '`defs "string"`'. Try '`TOP`' to set the upper limit for your code. **Dave**



A hard drive the size of an elephant.

Dear AA — YOU'RE HOPING

I don't I have much money at the moment? Please could you send me some. You've got my address, Cheers.
Thomas Lovell, Peterborough.

No way, mate. Hang on, weren't you the one after a prize for that poem? Don't you ever give up? **Dave**

Dear AA — BIG, BLUE AND BORING

I liked the comms piece in *AA105*, though IBM haven't made any really Big Money since people stopped buying Incredibly Big Machines. This doesn't stop IBM from producing Incredibly Boring Machines.

A couple of tips for transferring ASCII files; save them ragged right (*otherwise known as justified to the left – Dave*), otherwise they're a pain to reformat, and leave a blank line between every paragraph.

I agree with you about *The Cuckoo's Egg* – well worth reading.

Finally, in the mid-80s most industrial robots were using 4-bit chips, so using an 8-bit ZX81 or a PCW or a CPC would be a real luxury and the plain edge connector on the CPC and PCW meant that adding process control signals is a doddle – if you know what you're doing.
John Relatively Hudson, Huddersfield.

Thanks for the tips. I know from personal experience the problems of porting ASCII files – I spend hours every month finding and replacing weird control codes in text which appear from nowhere. **Dave**

Dear AA: READING DISORDERS

I have recently bought lots of games for my CPC, but most of them won't work. Sometimes, they say, read error b, or when they have finished loading the screen goes blank. Is this the tapes or is it my computer?
Mark Catterall, Wigan.

That'll be a tape problem, then. If you get a read error b, it means there's something slightly wrong with the signal, such as volume. If you're using a CPC6128 with external tape deck, try fiddling with the volume. Read error a, in case you ever come across it, means that the signal has stopped dead. If fiddling with the volume doesn't work, try adjusting your tape head, though take the whole thing to a repairman if you're not sure how, as we take absolutely no responsibility for people 'damaging' their equipment. It's probably just a volume thing, though. Failing that, nip out and buy a tape head cleaner, and run it through your machine a few times. **Simon**

Dear AA: DO IT OR ELSE

1 Your cool!!!
2 Good idea to do 'cop out page fillers'.
3 Is there any chance that you could put the *Mask* trilogy on a covertape?
4 Do an article like the one in *AA62* on movie games.
5 Do a review index like *AA102*'s cheat index.
6 Do a very large keypress cheat thing like the Multiface one in *AA90*.
7 Give away two covertapes like the PC and Amiga magazines.
8 Is there any way of using CPC software with an Ammy PC 1640?
9 Do another 100 pages on 'This time 10 years ago, there was...".
10 Your still cool!!!
Have happy joy.
Gareth Myles, Elite Temptation Software.

1 Our cool what?
2 Well, cop out page fillers would have been a good idea except that there aren't enough pages now to warrant page fillers.
3 There's a chance of anything, but some things are less likely than others.
4 No.
5 Well, maybe. We're thinking about it for our big farewell issue.
6 Look, hasn't anyone ever told you it's polite to say please.
7 I've never seen a PC or Amiga mag with one covertape, let alone two.
8 Check out page 33 for the answer to that.
9 100 pages?!? What, do you want us to devote three issues to it? Apart from the practical problems I think it'd get a bit boring.
10 Blimey, is it dead? **Dave**

Dear AA: WARNINGS

I enjoyed doing *Simon's* hardware project in *AA105*, but one question – how do you get solder out of the carpet? It was willful negligence not to make step one, "place newspaper on the floor." *Blue Peter* always gives a warning. You'll be getting a letter from my lawyers.
Pete Deneuve, Halifax.

Let's settle out of court – I know someone with a really good vax.

NEXT MONTH: WEIRD!

Heard the one about the disk to tape transfer program? Or the one about the red box that lets your CPC open your curtains? Or the one about the CPC burglar alarm kit? Or the one about the word processor without a print option? Do they sound a bit weird? Do they sound a mite bizarre? Well, they all exist, and you will be hearing all about them next month when *Amstrad Action* takes you on a guided tour around all that's weird, strange or downright pointless on the CPC scene, plus a round-up of some of the most downright awful games ever released. So hide that copy of *Count Duckula 2* now before you become the object of national ridicule.

PLUS – an exclusive preview of Campursoft's forthcoming video titling package, news, reviews, an astounding covertape packed with goodness and all the other reliably brilliant usual stuff.

AMSTRAD ACTION

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Printed in the UK

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READER ADVERTS

Bargains galore and much, much more in the CPC second-hand superstore. Or, in other words, here are the small ads...

SERVICES

Amstrad and Commodore games for sale. New and old. Also some other stuff. I also swap games. For details phone Karl at KCC on Bracknell 0344 304194. Also Amstrad Firmware manual for sale.

Top quality PD software at bargain prices *(I should hope so for PD – Dave)*. Plus 2nd hand non-PD and hardware. For lists (Amstrad, PC or both) send SAE to M Tuck, 15 Ravencar Road, Eckington, Sheffield S31 9GJ.

Compilation 8-game pack (disc). £2.75 including p&p. French instructions. 10 packs for sale. First come first served. Games include Game Over, Army Moves, Dustin. Cheques payable to Chris Parker. All orders returned if sold out. 1 Rectory Road, Edgefield, Norfolk, NR24 2RS.

Bard's Tale help. Maps and parties on tape. Also type-in listings on disc. Second hand games for sale. SAE to Angela Allum, 22 Point Royal, Bracknell, RG12 7HH.

CPC Trekking: brand new fanzine with coverdisc. News, reviews and more. Only £1.50 (including postage and packaging). Include 3-inch disc for coverdisc. Cheques to SA Sandhu. CPC Trekking, 17 Cromer Road, London SW17 9JN.

Twenty easy ways to make money with your Amstrad. These ideas really do work. For more info, please write to G Jones, 14 Merrick Place, Lockside, Dumfries DG2 9QP.

USER GROUPS

WACCI, the UK's premier CPC Club and user group. Did you know WACCI runs a book library? Send an SAE for details to: 7 Brunswood Green, Hawarden, Clwyd CH5 3JA.

WANTED

Any software for Amiga 500. Are any PD libraries giving away PD for the Amiga? *(You bet they are – Dave.)* Write to Mark Caldwell, 356 Kenley Close, Liverpool 6 3BJ.

I want arcade games like Arcadians, Croaker, Defender, Killa Gorilla, Snake, Magic Mushrooms, Martian Attack, maze and many more. Spencer Wilson, El Shaddai, Mountain West, Derrydonnell, Olanmore, Co Galway, Eire. Tel 091 90390.

I want a 64k memory expansion *(my mum always told me, "I wants' get nothing," – Dave)*, a Multiface 2 and an FD1 second drive for 464 and I want a 464 Plus and AAs 1 to 96 plus covertapes. Spencer Wilson, El Shaddai, Mountain West, Derrydonnell, Olanmore, Co Galway, Eire. Tel 091 90390.

Tape deck for CPC6128. Will pay up to £8. Contact Simon from 5.30pm to 9pm. 0634 574007.

Wanted: PD for library. Already contains 150 titles. The first two people to send 10 titles I do not have will win a boxed 3D Kit. One contains a bonus gift. For free PD contact John Jones *(Hi, how are the breasts? – Dave)*, 41 Westmoreland Avenue, New Biggin By-The-Sea, Northumberland WE64 6RN.

CPC6128, Multiface 2 and ROM board with ROMS. Tel 0483 814321 and ask for Sean.

Wanted: disc versions of Fighter Bomber, Airborne Ranger and War In The Middle Earth for CPC6128. Good price paid. Phone Vince evenings on Milton Keynes 0908 502868.

I want a CPC464. Either write to Mr Noel McDonagh of Letterfore Recess, Co Galway, Eire *(are you sure that's your full address? – Dave)* or phone 091 82624 and ask for Noel.

Has anyone out there got Laser Squad on disc? Phone 0905 795584.

Wanted: copy of RSX commands on tape for DK'Tronics Speech for the 464. Also needed, printer for 464. Write to J Corbett, 30 Town Street, Hemsworth, West Yorkshire WF9 4QR.

AA mags, Campursoft's Videomaster, Amdrum, all of the versions, any other music programs and DTP programs. Ali Halabi, 85 Thames Prom, Chelsea Vic 3196, Melbourne, Australia.

Printers wanted urgently. Any of the following printers required: Amstrad DMP 2000, Epson RX80/FX80/LX80, Canon PWI080A/BJ80, Kaga KP810. Write to Rizavan Iabal, 373 Rotton Park Road, Edgbaston, Birmingham, B16 0LB.

ATF, Space Crusade and Switchblade. Also, Titus the Fox. Will swap for Shadow of the Beast, HeroQuest, Rick Dangerous 2 and lots more. Tony 081 813 9034.

64K memory expansion. I will offer £20-£25 for it. Wanted for a CPC464. I would like you to phone on 0674 850564.

Manual for 464/6128, printer, text adventures on disc, music and art utilities, Prospell ROM, Quill, disc interface, also penpals wanted, any age any sex, to swap software. Call Paul on 081 444 5284.

Strategy war games wanted. Reasonable prices paid. Write to Jim Speers, 81 Tynan Drive, Monkstown, Newton Abbey, Co Antrim, N Ireland BT37 0JD.

Penpal wanted: any age, any computer (please specify when writing). Contact Andrew Hughes, 12 Colliers Close, Woodhouse, Sheffield, South Yorkshire S13 7DE. Willing to help beginners. (Any computer means Amstrads.)

AA72 with covertape (features Devpac). Contact Andrew Hughes, 12 Colliers Close, Woodhouse, Sheffield, South Yorkshire S13 7DE.

CPC6128 operating manual, also Gunship, Bard's Tale and Ancient battles. All on disc. Instructions not needed. Good price paid. Phone Vince, evenings, Milton Keynes 0908 502868.

Wanted: Draughtman by EG Computer Graphics. Willing to pay its price (£25) for disc version. Please write to S Val, 90 Long Innage, Halesowen, West Midlands, B63 2UY.

Commodore 64/Amstrad 6128. Wanted, persons for swapping stuff, information, etc. I also want to contact guys who are good programmers for making a team. John Fellides, Chrisoupolous 1 Street, Post Code 16231, Virona, Athens, Greece.

Power 128, also better quality larger size fonts to use with this and other similar programs. Please write to John Cleal, 25 Rothbury Road, Hove, East Sussex, BN3 5LG.

Early AAs wanted. Issues 1-16, 18, 22, 28, 34-36, 39, 40, 45-47, 49, 52, 61, 67, 69. Will pay. Please phone Frank on 0532 668798.

Wanted urgently: disk drive compatible with Amstrad 464, old type. Write to Tony Masters, 29 Holborn Road, Holyhead, Gwynedd LL65 2AR. Tel 0407 761780.

Prince of Persia for CPC464. Tel 0648 44541.

Amstrad 464, colour monitor, tel 081 292 3955 evenings only.

Amstrad 464 Plus keyboard. Has to be in good condition. Will pay good price. Also TV tuner and 64k upgrade. Phone Gareth Myles on 0247 473795 after 6pm.

Disk drive plus interface for CPC464. Any expansion RAMs. CPM program. WordPro and any other programs, manuals, etc. Details Firth, 7 Burned Grove, Shelf, Halifax HX3 7PU. 0274 679178.

6128 compatible 3.5-inch external disc drive. ROMbox, Protext, Prospell, Promerge, RAMDOS ROMs, KDS 8-bit printer port and associated manuals. Any reasonable price paid. Joe, 0553 770966.

MP2 modulator, for use with an Amstrad 6128 to connect it to aerial socket of colour TV. Price to include postage. Phone Dee on Leeds 0532 692009.

MP2 modulator, to connect CPC6128 to TV. Contact Derek Page on 0309 674084 or write to 47 Drumine Road, Forres, Moray IV36 0HX.

Iron Lord (by Ubi Soft) on disc wanted for Amstrad CPC6128. Contact Adrian Lybaek, 13-4695, 53rd Street, Delta, BC, Canada V4K 2Y9.

DMP 2000 or any other printer wanted, must work *(well, it does help – Dave)* and have leads and manuals. Swap for Atari Lynx handheld with games and adaptor. Phone Jordan on 0674 830534 7-9pm.

FOR SALE

Amstrad 3.5-inch external disk drive. Unwanted gift. With power supply and RAMDOS. £60. 0332 771303.

Tapes and discs for sale. All originals and boxed, in perfect condition. Send SSAE for list to Martin Scanlow, 5 Mary Street, Glin, Co Limerick, Eire.

Amstrad CPC6128, colour monitor, printer, tape recorder, mouse, joystick, Multiface 2, 100s games and utilities discs and tapes. All leads and connections, lots of magazines. £300ono. Derby 0332 792249.

Amstrad CPC464, colour monitor £50. CPC6128 ROM chip £15. Dart Electronics Light Pen £20. Many disc utilities, games, books and magazines. For details, SSAE to: Julian Cater, 29 St Leonard's Road, London, SW14 7LY.

Disc games: Stationfall (Infocomm), The Pawn, Knight Orc, Football Director 2, Laser Squad, Killed Until Dead, and many others. Disc utilities: Protext, CPM+, Handyman, Mini Office 2, PD Pascal. For details, SSAE to: Julian Cater, 29 St Leonard's Road, London, SW14 7LY.

6128, colour monitor, joystick, 6 AA covertapes, over 30 games, tape and disc, Discology and other serious utility discs. £195. Tel 0294 823077 after 4pm weekdays. Ask for Duncan.

Soft 968, RS232C, AA 2-85, other Amstrad mags, Elite Gold Edition, 64K expansion and Silicon disc for CPC464. Books and software. For more details ring 0752 781582.

Hardware and software. Including CPC6128 and CPC464. For list of send an SAE to Ian Chambers, 121 Allectusway, Witham, Essex, CM8 1NT. 0376 516352.

35 games, all on disk, including Elite, Arkanoid. CTM644 colour monitor. Two joysticks, etc. £70 (CPC 61218 thrown in as well, but its disc drive is a bit faulty). 0865 241128.

Amstrad CPC6128, colour monitor, some disk games and tapes. Cassette player with lead. Desk and chair included. £75. Tel 0703 786520. Buyer collects.

Tempest, Sweevo's World, Fruit Machine, Tetris, Batman, Crystal Castles, Realm, Mr Freeze, Vampire, House of Usher, Supersleuth, Rollaround, Lop Ears, Mindtrap. £1 each. Tel Chris 0293 612987.

Advanced OCP Art Studio (cassette), Genius Mouse, interface, User Manual, £35. AMX Stop Press DTP (disc), user manual £35. Devpac (disc), editor, assembler, monitor, disassembler, instructions, booklet, £15. Phone 0905 26847.

100s of original programs, games/serious, disc/tape, 464 (6128 chip), 64k mem-ex 3-inch drive, MF2 TV modulator, TV tuner, £175. Will split. For list send SAE to Celina 19c Upper Grove, South Norwood, London SE25. 081 653 9622.

CPC6128, colour monitor and mono monitor, Brunword Mk II ROM, Multiface 2, loads of disc and tape games, utilities including stop press, TAS-Sign, many extras, most AA magazines. All covertapes. £350ono. 0455 637219.

50 CPC tapes, 50p each. Send SAE for list to Chris, 18 Palmyra Road, Bedminster, Bristol BS3.

Amstrad Actions for sale. Issues 74-76, 82, 86, 88-91, 93, 100-103. All with covertapes. Also some games including Robocop, Turtles. Call 0705 596576.

3-inch external FD1 disc drive in as new condition. £35. Joe 0553 770966.

Amstrad discs, tapes and magazines for sale. Send an SAE for list to Alan Archer, 21 Vandyke Avenue, Keynsham, Bristol BS18 1LF.

Continued on page 22 ➤

Buying goods through the post

There are loads of great bargains to be found in this Reader Ads section and the other adverts scattered through the magazine. But some of you might understandably be a bit reticent about sending money through the post for goods you haven't seen to somebody you've only talked to over the phone. But don't panic. Just follow our simple guide to buying goods by post to minimise any risks.

- **Before ordering anything try to contact by phone to the person or company advertising the goods you want. Write down a list of questions you want to ask them – clarify the price, who will pay for delivery, compatibility, etc.**
- **Confirm a delivery date – ask how long you can expect to wait before the goods will be delivered (with official companies it should be within 28 days).**
- **Never send cash through the post. If possible use a credit card because it will probably give you some form of insurance. Failing that use a cheque or PO.**
- **Keep records of all correspondence and phone conversations with the people you're ordering stuff from.**
- **If a problem does occur, the first place to contact is the person or company you're ordering the goods from. Be calm and explain the problem clearly. Most faults are just mix-ups and can be sorted out.**
- **If, however, you continue to have problems write to us here at Advertising Complaints, *Amstrad Action*, 30 Monmouth Street, Bath, Avon BA1 2BW.**

Serious ACTION



Spriting Back

You've just been given a sprite system on the covertape, you know. Now it's up to Simon to show you how to use it to create your own moving images. God help you.

Great cover this month, huh? And what it's referring to is pretty great, too – a sprite system with an editor strapped on the back (*but then, you would say that; you wrote it – Dave*). This is the way we do things at *AA* – we've given you the opportunity to animate your pictures quickly and easily with this fab system. So read on and find out how to...

- **ANIMATE SMALL SECTIONS OF LARGER PICTURES**
- **MOVE SMALLER OBJECTS AROUND!**
- **CREATE GREAT SPRITES WITH EASE!**
- **PUT TOGETHER THE BONES OF AN ARCADE GAME!**
- **WRITE IMPRESSIVE PROGRAMS TO REALLY MAKE YOURSELF LOOK A LOT BETTER AT PROGRAMMING THAN YOU REALLY ARE!**
- **EAT THE PETERBOROUGH PHONE DIRECTORY! (Er, maybe not)**

Two-in-one

Spriting Back consists of two programs: a command system and an editor, in that order on the tape. The command system adds extra commands to BASIC which enable you to display and move the sprites you've drawn, and the editor is an easy way to design your sprites, letting you move a cursor around the screen and plot your sprites pixel-by-pixel.

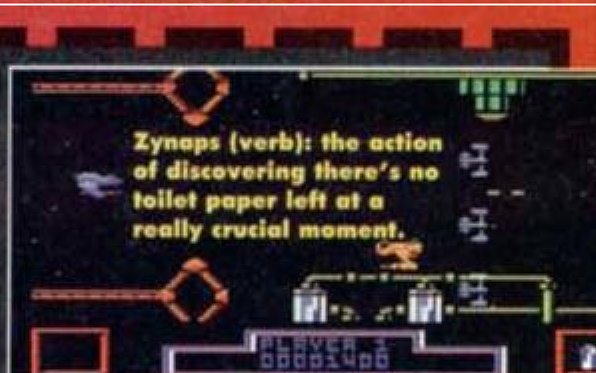
Right, so these are the stages you go through to get you sprites on screen and moving about:

- You start by drawing sprites in the sprite editor.
- When you're happy with the way they look, you save the sprite file out onto tape or disc.
- Next, you load up the sprite command system into memory, followed by the sprite file, and you can use the system's special commands to display and move the sprites you've drawn around the screen and do other interesting things.
- To use the commands you need to write short basic programs, but don't panic if you're no coding genius. These programs really are simple; we'll give you the basic formulas and you just change the necessary bits to get your sprites behaving as you want them to.

The command system

The command section is very simple, as it adds two commands to BASIC:

Zynaps



Zynaps (verb): the action of discovering there's no toilet paper left at a really crucial moment.

The light struck his visor in an especially, pleasingly aesthetic way as Commander Zynaps climbed into his ship (*I wondered how you were going to explain that title – Dave*). He had a difficult mission ahead of him; he had to defeat the evil forces of Harabsnahi before they could take over the planet and enslave the entire population. As the sun set spectacularly behind a large, silvery mountain, Zynaps powered off into the evening sky, leaving a vapour trail burnt into the stratosphere like the scarred flesh of those who had fallen before him.

After about 15 minutes flight, he sighted the enemy fleet, and realised at once what a mistake it had been – they stretched away into the distance for miles, filling his entire field of vision with heavily-armed, gleaming ships. There were millions of them.

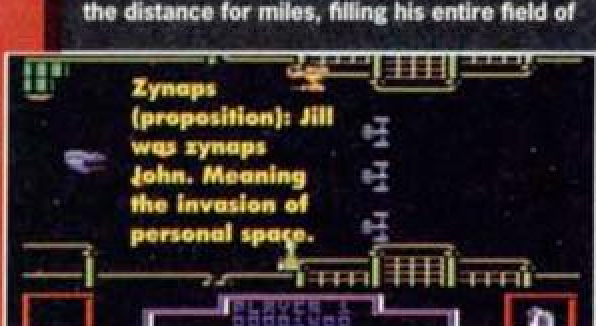
There was one of him. Just the one. Zynaps was afraid. He wished he'd taken his brother's advice and set up that bar on Malibu beach. It was too late now, though – he was so obviously going to die, and there was no way of getting out of it. If he turned around he'd never make it back home, and even if he did they'd come and get him there, absent-mindedly trashing an entire civilisation in the process.



Zynaps (noun): odd pointy things in space.

In a blind panic he noticed an asteroid just a few nautical miles below him (that's how they measure distance in space, you know). It was obviously empty as it was covered with a ruined space complex pitted with the scars of its battles with the elements of space. He sent the ship into a dive. The Harabsnahi followed, though admittedly with a little less enthusiasm.

Unfortunately, one of the crater holes that they'd blocked with a forcefield. "Ah well, he thought, there's nothing else for it." And he turned his ship to face the aliens... (who writes this rubbish?)

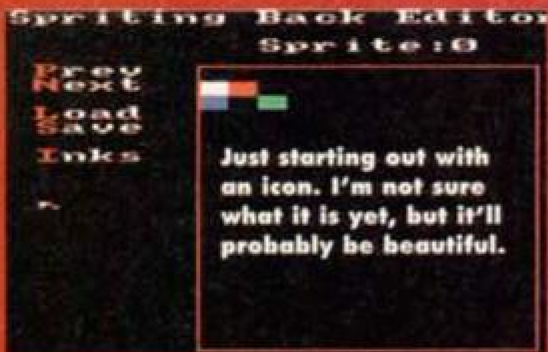


Zynaps (proposition): Jill was zynaps John. Meaning the invasion of personal space.

COMPLETE CONTROL



And so it was that Captain Zynaps was left flying from left to right through a strange terrain, using his joystick/pad to manoeuvre his ship. He discovered that he could use the power ups by holding down his fire button until his ship flashed, at which point the next weapon would slide into place.



Just starting out with an icon. I'm not sure what it is yet, but it'll probably be beautiful.

|SPRDIS,addr,xpos,ypos,wdth,lngt
This displays a sprite on-screen. The parameters (numbers after the command) refer to where the sprite is displayed on-screen and how big it is.

|SPRDEF,addr,xpos,ypos,wdth,lngt
I'm not repeating myself, honestly. This works in the opposite way to the display command, taking a sprite from the screen and putting it into memory, to be displayed later on. We'll go through defining sprites manually when we deal with big picture animation.

|FRAME
In a fit of being nice to people, 464 owners might appreciate this command. It's already present on the 6128, but being invaluable as it is we thought we should give it to everyone else. It's used to smooth out animation, by waiting until the optimum moment for drawing on the screen. Use it just before our sprite display command, and it smooths things out.

The Editor

The sprite editor enables you to draw up to 16 sprites in a magnified mode. You could, if you wanted to, draw the same sprite in 16 different frames of animation, but that's a little over zealous to start with. You could draw 16 different sprites if you wanted to, or eight sprites with two frames of animation each.

Whatever mix of sprites you choose, this editor couldn't be simpler to use – just doodle and draw what you want. All you really have to do is remember which sprite number refers to which sprite. The cursor keys move your little flashing cursor around the screen, and the numbers 0 to 9 will plot that pen colour. To delete a pixel then, you hit 0, as you're effectively writing a pixel in the background colour (it's like using Tippex).

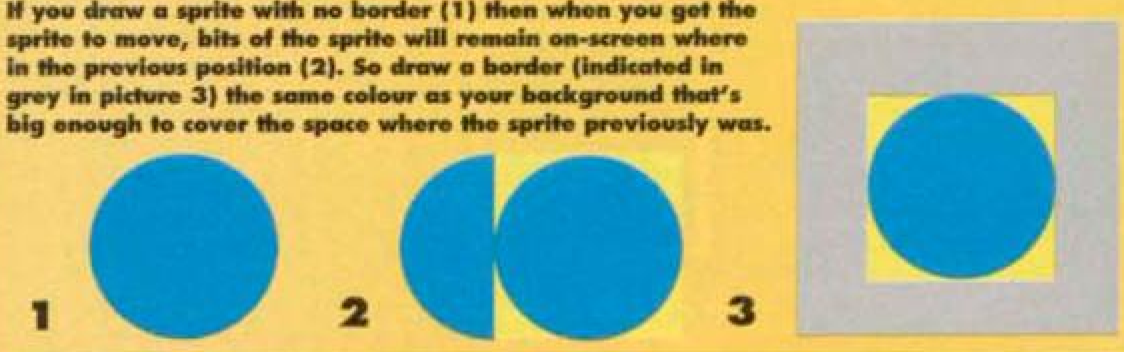
If your sprite is wider than the window you're editing it in, the window will scroll when you move your cursor past the edge of the window, letting you move around the whole sprite effortlessly. But you can only design them up to a certain size – the program will make sure you don't design any overlarge sprites. To switch to the next sprite, use the P and N keys, standing for 'previous' and 'next'.

To save and load your sprite file (which is 4k in size), you can hit either S or L, though if you've got a sprite file loaded into the command system when you run the editor, you can edit that instead.

Pick a mode

This sprite package works in any mode, as the measurements aren't made in pixels. Instead, the screen has been divided into a grid, 80 squares across and 50 squares down. All measurements are made on this grid when referring to the position and size of a sprite. This is now our standard unit of

If you draw a sprite with no border (1) then when you get the sprite to move, bits of the sprite will remain on-screen where in the previous position (2). So draw a border (indicated in grey in picture 3) the same colour as your background that's big enough to cover the space where the sprite previously was.



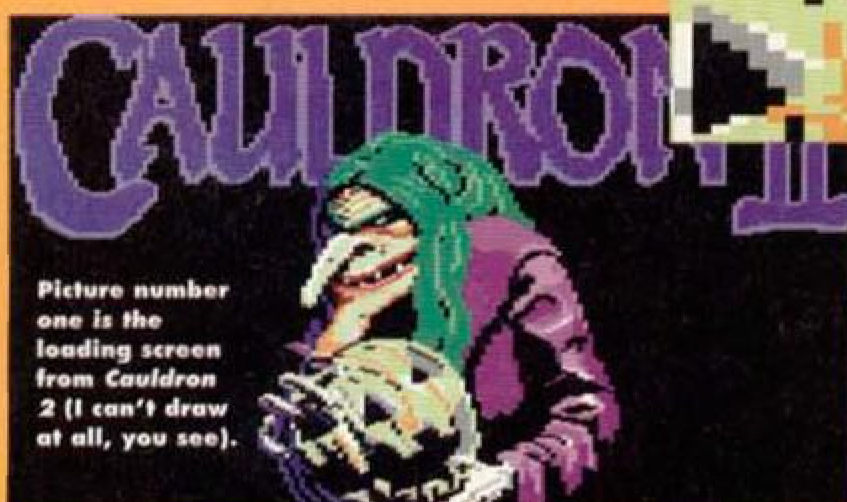
The easy way to create an animated picture

What about when you want to animate a small part of a larger picture? Let's take a quick walk through the steps to animating a larger picture.

We'll start with two pictures that you have already created in n art package, with only a few differences. This could be one picture of a background, and the next picture with, say, a window opening on a house.

1 We take our original two pictures (you can do more in a row if you want, but the same method is used repeatedly, so we'll stick with two for now). First, mentally draw boxes around the area of the picture that changes, working out the size and position of the box in our unit measurement. For this example, we'll assume the box is at 23,11, and has the dimensions of 8,5 (eight units wide, and five units high).

2 For this method of animation, we load the command system into memory. Next, we load up picture two and use the SPRDEF command to define that changing area as a sprite. Let's say we had an area, the top corner of which was 23,11, and the dimensions of 8,5. Our program to do this would be:
10·MODE·0 (set up our mode)
20·MEMORY·19999 (this command says we're not going to store sprites below the memory address of 19999)
30·LOAD·"!SCREEN2.SCR",&C000 (this loads the screen up)
40·|SPRDEF,20000,23,11,8,5 (and finally we define the sprite, taking the chunk of the picture that'll change and storing it in memory)



Picture number one is the loading screen from *Cauldron 2* (I can't draw at all, you see).


Our sprite is just the part of the picture that changes – clever little trick, don't you think?


The second version has a closed eye.

3 Next, load up the picture, wait for the user to press a key (you could just leave a delay loop to do this if you wanted to) before changing that part of the image:
10·LOAD·"!SCREEN1.SCR",&C000 (load the first screen into memory)
20·CALL·&BB06 (This just waits for a keypress)
30·|SPRDIS,20000,23,11,8,5 (This displays the part of the picture that changes over the correct part of the old picture)

4 If we wanted to add another frame to our animation, we'd simply load up that screen and define the same area again in a third position. We do need to work out how much memory the sprite takes up, so don't write over the first one. If you take the height, multiply it with the width, and multiply that result with four, you get the length of the sprite.

The sprite would be 8x5x4, making 160. Your next sprite sits at 20160, then. You'd end up adding the following lines to the final program, as well (once you'd defined it again using step two):
40·CALL·&BB06
50·|SPRDIS,20160,23,11,8,5
So grab a title screen and get experimenting.

measurement. All you have to do is remember that, and you'll be absolutely fine.

We still need a mode, though. The editor works in mode 0 (as do most games), though that's no reason to feel at all restricted to that mode (it's got lots more colours, though, so it might be the one to use). You could have your game (or whatever) in modes 1 or 2 – it's totally up to you. If you do plan to use a different mode, though, you'll have to do something else about editing your sprites. You'll use mode 0? What a sensible decision...

Pick a project

In order to demonstrate how you can use this package, we're going to do two different things. First, we're going to bounce an object around a screen and second, we're going to animate a chunk of a picture. When you've grasped these two ideas, you'll have pretty much got the hang of sprites and what you can do with them. We're going to start with the bouncing idea, as you'll learn a lot more a lot quicker that way. We're going to start with a ball.



It's my ball. If you don't think you can draw as well as this you've got real problems, kid.

1 Load up your sprite editor, and start editing sprite 0. It needs to have a width and height of four units, making it eight pixels wide and 16 pixels high. We're going to draw this sprite with a strip of one unit running around the edges, for reasons we'll come to in a moment. All you have to do is work with the cursor keys and ink keys (the numbers) to produce a sprite to those specifications, after setting the dimensions of the sprite by hitting D and entering 4 and 4 again. You can feel free to knock up your own ball (as long as you keep it the same size).

2 Save out the sprite file (by hitting S) and reset your machine. Load up the command system (the first program) and use the following command to load your sprite file:

```
MEMORY·&8FFF:LOAD·"SPRFILE.BIN",&9000
```

* This is the command you will always use to load up your sprite file (containing up to 16 sprites, although in this example we've only drawn one).

3 To display your sprite, you have to use:

```
|SPRDIS,&9000,1,1,4,4
```

The first number needs a little bit of explanation. The sprite are numbered from 0 through 9, then A to F. You put your sprite number in place of the first zero (sprite 7 is at &9700, and sprite B is at &9B00).

The next two numbers are the sprite's location on the screen. To display it five units in and seven units down, the numbers would be 5,7.

The final two numbers are the sprite's width and height, which in this case will be at 4,4 because that's the size of our ball.

4 If you wanted to move it across the screen, you could use:

```
FOR·x=1·TO·40:|FRAME:|SPRDIS,&9000,x,5,4,4:NEXT·x
```

This works by just increasing x, and displaying a new sprite one unit to the right of the first. The border around the ball that we defined earlier draws over the parts of the old ball we could still see.

5 Now we're going to write a simple program to move the ball around the screen in a straightforward *Breakout*-type manner. You don't have to understand this, but those of you who're into BASIC might appreciate it:

```
FABJ 10·x=1:y=1:xd=1:yd=1
FANC 20·x=x+xd:y=y+yd
BAOO 30·FRAME
FAJP 40·|SPRDIS,&9000,x,y,4,4
FAMD 50·IF·x=76·THEN·xd=-1
EAEN 60·IF·x=1·THEN·xd=1
FAOD 70·IF·y=47·THEN·yd=-1
EAIN 80·IF·y=1·THEN·yd=1
CAEE 90·GOTO·20
```

And there we have it. You could add a bat and a few bricks if you really wanted to, making a full breakout game (I might print a listing for one in next month's Type-Ins if you ask nicely).

Anyway, the general idea is that you can move an object around by making a blank strip (like the one around our ball) obscure the old image of the ball completely. You could think of it as an eraser following the ball around in all directions. Anyway, this is what it looks like on paper:

For a game system, you'd use a small strip and draw it on separately so that the ball didn't take chunks out of walls when it bumped into them, but that's something you'll only really need once you start to write big games.

If you wanted to animate the sprite as it moved, you'd display sprite 0 in one position, changing the sprite number when you change the sprite position (you have to draw the other frames, though). As this makes the sprite change from position to position, it becomes animated. Let's say you'd drawn three sprites in varying stages of animation using the editor. Animating that sprite would be very simple:

10·sp=0 (the sprite number)
20·FOR·x=1·TO·20 (sets up the increasing x position)
30·addr=&9000+(sp*256) (calculates the sprite's address – you can use this in your own programs)
40·|SPRDIS,addr,x,5,4,4 (displays the correct sprite from the correct address at the correct position on screen)
50·sp=sp+1 (increases the sprite number)
60·IF·sp=3·THEN·sp=0 (making sure it doesn't get too high)
70·NEXT·x (and loops round)

And that's how we move objects around the screen the easy way. To make things smoother, we use the mystical FRAME command. The mechanics of this were explained in more depth in issue 101, but all we need to know is that it's handy for smoothing out animation. 6128 owners just use the FRAME command as normal as their machines have it as a part of BASIC whereas 464 owners can use the |FRAME command they now have. They could just use CALL &BD19 but this is a lot less messy, frankly.



A nice big terrifying ship. Boy, can I draw or what?

The command works by waiting for the dot that whizzes across the screen making up an image of light to arrive at the top-left corner. This means that if you do all of your time consuming calculations, use the FRAME command and then carry out you actual display operations, things should be smoother as the scan line won't overtake your printing and cause a flicker.

Next Month

Well, that's the basics of what you can do with Spriting Back, but there's loads more things you can do with it. And we'll be telling you about a few more of those things next month. In the meantime, have fun. AA

Loading instructions



Getting started

To load up either side of the tape, simply rewind it, hold down CONTROL and press ENTER. Owners of 6128s or 664s will have to switch their machines to work with tape by typing |TAPE first.

Tape to disk offer

If you've got a disk drive and you want to get a disk version of this month's tape it's easy. Whip out your scissors and cut off that token at bottom of this page, chuck it in an envelope along with your name and address and a cheque or postal order for £2 made out to Ablex Audio Video, then send off the whole kit'n'kaboodle to:

**AA106 Disk Offer,
Ablex Audio Video,
Harcourt,
Halesfield 14,
Telford,
Shropshire TF7 4QD.**

Loading troubles?

We make the greatest efforts to ensure our cover- tapes work properly, but if you've tried all that and your tape's still not loading then pop it in the post (with a note telling us your name, address, type of CPC you use and a brief description of the problem) to:

**AA106 Covertape returns,
Ablex Audio Video,
Harcourt,
Halesfield 14,
Telford,
Shropshire TF7 4QD
☎ 0952 680131**

NB When returning faulty tapes could you please also include a stamped, self-addressed envelope. Thank you.



Basically Basic



Our regular beginners' guide to Basic shifts up a gear, as Simon Forrester explains how to write a racing game (well, a sort of racing game anyway – what do you expect in Basic?).

Before we start, I'd like to introduce you to a new explanatory device of mine. It's called The Voice Of Reason (*Hi there – Reason*), and it'll be asking the questions that you would ask if you could but you can't – well you could, but talking to a a magazine is more likely to get you locked up than an answer (*are you going to get on with it? – Reason*). Yeah.

By the end of next month, we're going to have written a scrolling race game. Unfortunately, this will be for users of BASIC V1.1, as 464 owners don't have one of the vital commands for testing when you hit something. I might print some little listing to add the command to BASIC for them, but that'll all next month.

First, let's write a program to draw a course and scroll it. This'll be a very crude way of doing things, but it'll work. Slowly. Next month, after we've added our player, we'll look at possible ways of speeding things up. Anyway, our listing:

```
BAIF 10·f=4
DAOB 20·LOCATE·1,25
BAEJ 30·l$=""
DAAM 40·FOR·x=1·TO·39
DADN 50·b=INT(RND*50)
IAEB 60·IF·b/f<>INT(b/f)THEN·l$=l$+"·"
HACO 70·IF·b/f=INT(b/f)THEN·l$=l$+"*"
CAPF 80·NEXT·x
CAGM 90·PRINT·l$
CANG 100·GOTO·30
```

On the side

Voice Of Reason tells me that the more astute amongst you have noticed a lumping great gap of cells on the right hand side, that your car could easily glide down without hitting a single obstacle. Well, for the purposes of our game, we don't want to print a 40 character string of characters, because that could cause problems when it comes to scrolling the screen – if the character is automatically shuffled onto the next line of the screen, it'll scroll even more automatically than it does now, and things get really confusing.

Take it from me that restricting the player's movement away from the gap is the most straightforward method.

What the...?

Those lines 60 and 70 really are complicated, aren't they? Let's take a look at what it could all mean. For now, we'll just use the section we need:

```
IF·b/4=INT(b/4)THEN
```

First, we need to remember that 'b' is a random whole number. All we're actually doing is asking whether b ÷ 4 is the same before and after it's been converted to a whole number (*we're asking whether b is divisible by four, like tossing a four sided coin – Voice Of Reason*).

The line containing the <> symbols is simply asking whether the two values are different. Using these two commands, we can toss a four-sided coin, making one cell in four an obstacle. To change the difficulty level, reduce the value set-up in line 10. If you set it at two, every other cell would be an obstacle, and the game would be impossible. Try it at ten, though – what happens then?

Line-by-line analysis

`10·f=4`

This line isn't worth considering for the minute. It actually sets up the toughness of the course, a value of one producing an impossible one. A value of four is just about right, though, but feel free to experiment.

`20·LOCATE·1,25`

The LOCATE command simply places the text cursor at the coordinates given. In this example, the cursor will land one square in from the left, and at the 25th line.

`30·l$=""`

This string is going to contain the obstacles for each line, ready to be printed at the bottom of the screen.

`40·FOR·x=1·TO·39`

Here we begin the routine to create the string of obstacles. Line 40 itself is a FOR/NEXT loop, referring to the 39 positions an obstacle can be in.

`50·b=INT(RND*50)`

Next, we pick a random whole number from 0-50.

`60·IF·b/f<>INT(b/f)THEN·l$=l$+"·"`

If this number isn't divisible by four, that particular cell contains simply a blank space. The value of four is set by line 10.

`70·IF·b/f=INT(b/f)THEN·l$=l$+"*"`

If the number is divisible by four, the cell contains an obstacle. This gives a one in four chance of coming across a problem. (See a further explanation in the boxout titled What The...?)

`80·NEXT·x`

We'll repeat the obstacle set-up routine 39 times, as set by the FOR command to which this line relates.

`90·PRINT·l$`

It's time to print that lil' old line of obstacles (well, stars, actually, but use your imagination). The print command automatically jumps down to the next line after it's finished, making the screen scroll.

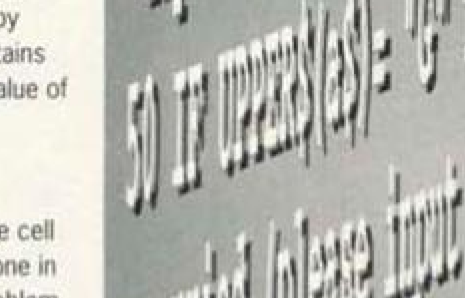
`100·GOTO·30`

...And loop back to the next line of obstacles.

That's it, then

All you have to do now is type RUN, and watch those stars fly (well, crawl actually, but you get the point) up the screen.

Next month, we'll be adding the player's ship (or snake, maybe), and working out how to check whether we've crashed into anything recently. Have fun.



It *is* a race game. Honest guv.

Forum

Speak to me!

I recently received a copy of *Speech*, the program which allows your computer to speak. On loading this program, three commands are made available, but when I try to use them, the computer returns an error of 'Type mismatch'. My computer is a CPC 464.
Karl Allen Madson, no address

SOLUTION

The 464 doesn't handle extra commands (RSXs) in the same way as other CPCs. On a 664, 6128 or Plus, you could type `|SAY,"Get the message"` and the computer would understand. A 464 requires you to use a string variable, such as `a$="Get the message": |SAY,@a$`. **Richard**

Wild thing

1 I have just been trying to go through Simon's short article on "cheat poking" in *AA94*, but seem to be having some difficulty. When looking for the 'life' routine, it suggests searching for the bytes 3A ?? ?? 3D 32 ?? ??. I have *HackIt* and *MaxiDOS*, but I do not appear to be able to specify wildcards in their search routines. If it cannot be done with these programs, can you suggest commercial programs that accept wildcards or can you publish a suitable program as a type-in?
2 If you have a lot of print statements that you want to direct to screen and printer, how can it be done without rewriting all the statements, preceded by PRINT#8? There has got to be an easier way, surely?
Auctioneer Corcoran, Prestwich

SOLUTION

1 *Tearaway* will do it, but requires a Multiface. It's quite hard to get hold of, too. A couple of new hacking programs are under development (one by Richard Wilson, author of *ParaDOS*, and one by the infamous Doctor Fegg), and both look pretty nice, but whether either will ever see the light of day is debatable. So here's a routine to search the whole of memory for the bytes above:

```
100 FOR n=&AF00 TO &AF47: READ a$
110 POKE n,VAL("&"+a$): NEXT
120 DATA C3,06,AF,C3,0D,AF,21,00,00,22,4
6,AF,C9,FD,2A,46
130 DATA AF,FD,7E,00,FE,3A,20,19,FD,7E,0
3,FE,3D,20,12,FD
140 DATA 7E,04,FE,32,20,0B,FD,E5,D1,FD,2
3,FD,22,46,AF,18
150 DATA 0B,FD,23,FD,7C,FD,B5,20,D8,11,0
0,00,DD,6E,00,DD
160 DATA 66,01,73,23,72,C9,00,00
170 CALL &AF00
180 a%=0: CALL &AF03,@a%
190 IF a%<>0 THEN PRINT
HEX$(a%,4): GOTO 180
```

2 Yes, there is. Instead of writing `PRINT` or `PRINT #8`, use `PRINT #n`. Then put a loop like the following one around them:

```
100 FOR n=0 TO 8 STEP 8
...print statements here...
200 NEXT n
```

That should sort everything out in a totally sorted out-tastic sort of a way. **Richard**

Not COMplying

I recently purchased second-hand a CPC 6128 with colour monitor, and being a complete novice, I wonder if you could answer me two questions.
1 I have the original Amsoft disc, but I am unable to load it at all. Whatever I type at the Ready prompt, all I get is 'Syntax error'. How can I run these programs?
2 I notice that on the left-hand side of the keyboard is a socket marked 'Tape'. What equipment would I need for this and what tapes could be run from it?
Miss Strait-Jacket Cox, London

SOLUTION

1 The programs that you're trying to load have a filename ending with '.COM', which means that they are not to be run from the Ready prompt, but from CP/M – a powerful computer operating system for the criminally insane. CP/M can be tricky to use, but to get started, find the disc with the file C10CPM3.EMS on it, and type |CPM.

When '**A)**' appears, type **DIR** and press RETURN. A list of files on the disc will appear. You can load any program whose name ends in '.COM' by typing its name, without the '.COM' on the end. (COM is short for 'command' would you believe.)

2 You need a cassette lead (£3.95 from OJ Software on ☎ 0257 421915), and any cassette deck with a standard headphone socket. You can then load any CPC cassette programs, including our covertapes. If you want to save programs onto cassette, you need a microphone socket on your cassette deck too. **Richard**

Boxing champion

1 What's the difference between a ROM-box and a ROM-board?
2 Where can I find an EPROM programmer for my CPC – if possible one that can do large EPROMs, such as 64k EPROMs?
3 I have a 464 Plus with a 3.5-inch disc drive. I now want to purchase a 3-inch drive to run games. I have heard that games don't run from the B-drive. Where can I get the appropriate drive, and what can I do to make the 3-inch disc drive become drive A?
Nosejob Sarwar, Sutherland

SOLUTION

1 None whatsoever.
2 Avatar used to sell a 16k programmer for £35, but they seem to have vanished off the face of the Earth. You might be able to find one cheaper in the small ads section (page eight). Maplin (☎ 0702 554161) sell a number of programmers which can cope with 64k EPROMs but the cheapest is £145, and you'll need a serial interface to connect it to your CPC.
3 You'll need an ABBA switch, (BTL, 298 Holton Road, Barry, South Glamorgan) to switch drives – that is, if you can actually find a 3-inch drive. Your best bet, as ever, is to search through the small ads. **Richard**

GPaint pot

The free clip art on the December 1993 covertape can be imported into *GPaint*. Select the disc icon and click on the 'Load' function. Place the covertape in the tape deck and rewind it to the start of side one. Then type in `CLIP1.SCR`, and press PLAY and any key. After a long wait, you will have a screen of MODE 2 clip art.



We reveal how you can import our AA99 covertape clip art into GPaint.

If, like me, you have an old 9-pin dot matrix printer, then you may find that *GPaint*'s Normal Printout option jams up your printer. If this happens, then use the Inverse Printout option. Any coloured lines will be printed black, and anything black will not be printed. When designing graphics for which you want an inverse printout, remember to use white for anything you want printed and black for anything you don't.
David Bartlett, Ross-on-Wye

You can also load one individual piece of clip art by selecting the 'Load section' function instead, and then drawing a box around the bit you want to load. If you need to invert a screen, remember that *GPaint* has an operation to do just that. **Richard**

Old buffer

I have recently bought a CPC 6128 complete with a DMP 2000 printer (*again? – Richard*); sounds good you might think, but the printer is

playing up something rotten. If I try to print out a text document, it almost always turns into gobbledygook halfway through. If I try to print out some sort of graphics using *OCP Art Studio*, it starts off all right but it keeps on cutting out. I have tried cleaning the contacts on the printer lead and the circuit board connector, but alas to no avail. I would greatly appreciate it if you could give me some idea as to what I am doing wrong, because it is driving me up the wall.
Stephen Clay, Basingstoke

The most likely cause for corruption is that the RAM buffer inside your printer, which stores text and graphics between the CPC sending it and its appearance on the paper, is faulty. This should just be a matter of replacing one chip, although if it's soldered in, you might feel more comfortable getting an electrician to do it for you. The chip will probably have a number such as 4116 or 4164, and a replacement is available from Maplin; their catalogue is on sale at your local WH Smith's, or 'phone them on ☎ 0702 554161. **Richard**

...And again

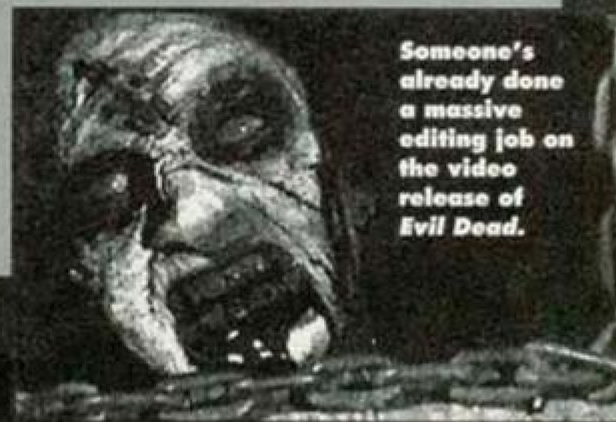
I have had a mono CPC464 Plus for about three years now and would like to do some upgrading.
1 Avatar sell a disc drive interface for 464 Plusses, but what drives would I be able to attach to it?
2 Will an old MP-1 TV modulator allow me to attach a (non-SCART) TV?
3 If I got a 3.5-inch disc drive, would there be any way of getting hold of games and utilities on 3.5-inch discs?
4 What is the best DOS around at the moment?
5 I bought *Academy* on tape, but when I loaded it, it wouldn't continue past the title screen saying "Press FIRE or Space". Is it compatible with the Plus, since it was made before 1990?
Robert Stewart, Herefordshire

1 Any standard 3.5-inch or 3-inch drive can be attached to your CPC (even a 5.25-inch one, should you so desire).
2 Yes, except that the power connector is slightly different on Plus machines. This means that you'll need it changing to something that matches – ask your local electronics repairman, or any CPC repair specialist.
3 Games on 3.5-inch disc are virtually non-existent – only a very few independent software developers will offer games on this format. However, most serious programs should be available on 3.5-inch disc these days, and you could always buy a Multiface or a program such as *Soft-Lok* to transfer your tape software onto 3.5-inch discs. Quite a lot of the leading Public Domain libraries will supply also software on 3.5-inch disc. Seek and ye shall find (as annoying know-it-all sages-like beings have a habit of saying in second-rate fantasy flix).
4 Quantum's *ParaDOS*, now finally available from BTL (298 Holton Road, Barry, South Glamorgan) or Campursoft (☎ 041 554 4735), is the clear winner in this category. And it comes on a ROM. Siren's *ROMDOS XL* comes in some way back in second place, with STS's *S-DOS* a close third (although it gains a Completely Pointless Award for CP/M compatibility), while wooden spoons go out to RAMDOS, 400K/S, and MS800. And that ends the nominations from the Techy Forum jury.
5 This is a classic symptom of Plus incompatibility, I'm afraid. With the original CPCs, Amstrad placed a technical requirement on programmers writing routines to check the keyboard. However, it didn't matter if you ignored it, and since key-check routines are a complete pain to write, many programmers didn't bother. Then when the Plus came out, this requirement suddenly became important, as the new hardware wasn't so tolerant. **Richard**

Video nasties

I have a CPC 6128 with colour monitor, *Video Titler* by PR Fowler (on disc) and a video editing console. What I want to do is to use my video recorder and my video camera – and be able to run the title sequence from my 6128 through the editing console and onto my video recorder tape. The instruction given in the booklet for the titler is to obtain and connect an MP2 modulator.
1 Will this work through my editing console, or only direct onto the TV screen?
2 If I do need an MP2 modulator, where can I get one from?
3 Is there any other item that may do the job?
Glen Johnson, Hyde

1 If your editing console has a standard RF aerial-like input socket, you're okay. You can also buy a CPC to SCART lead if it has a SCART connector, which should work out cheaper.
2 WAVE (☎ 0229 87000) sell a SCART version of the MP-2 for £15.99, but the RF version is harder to find. Off to the small ads with you...
3 Campursoft produce the extremely good *Videomaster*, which might suit your needs better. They're also soon releasing a flexible video titling system. Phone them on ☎ 041 554 4735. **Richard**



Someone's already done a massive editing job on the video release of *Evil Dead*.

Amnesia

I am having trouble with my 6128. The extra 64k is messed up – it corrupts things. I can't load any programs that use it. Could I buy a spare chip and put it in instead? Could you print the address of a company that could sell me one?
Craig Lawrence, Luton

It's not quite as easy as you might think, because not only is the extra 64k made up of more than one chip, but each of these chips is soldered in; you'll need to desolder each one, buy some new chips, and solder them in. But don't rush out and attempt this straight away because the problem's not necessarily a case of faulty memory chips. It's possible, though unlikely, that the VGA, the chip that controls access to the extra memory, is faulty in some way. Contact HEC, STS, WTS or any of the millions of three-letter CPC repair specialists, but 'phone around for the best quote before committing yourself. **Richard**

ABBA cause damage

No, we don't mean that the Swedish group are offending people's musical sensibilities (well, they do), but that ABBA switches are quite dangerous to the health of your disc drive. If you have a 3.5-inch disc drive switched in as drive A:, which was last accessed somewhere after track 40, and you then switch your (40-track) 3-inch drive in as A: and try to access a disc, you'll hear a horrible noise as the floppy disc controller tries to move the disc head too many tracks. This sounds unpleasant, true, but it can actually cause damage to disc drives if you're very unlucky.

There are two solutions; either perform a hardware reset (eg, with the Multiface's blue button) when you use the ABBA switch, or catalogue the disc just beforehand to move back to track 0. With the scarcity value of 3-inch drives these days, it's probably not a good time to trash yours.



Obvious gag alert!

Don't panic!



Techy Forum'll fish you out of any CPC problem. Send you queries to: Techy Forum, *Amstrad Action*, Future Publishing, 30 Monmouth Street, Bath, Avon, BA1 2BW.

HARD COPY

The one piece of hardware that everyone who uses their computer for more than just games really needs is a printer. But it'll come at a price, and we don't just mean the sort you can stick on your flexible friend. The price is sanity. To the uninitiated, printers seem like unnecessarily complex beasts, designed to be awkward. But Simon Forrester's here to put you through the initiation ceremony...



Printers are horrible. I'm not going to beat around the bush here – for something that's potentially one of the most useful hardware peripherals you'll ever buy, printers can be the most impossibly difficult machines to get working properly and use effectively. But that's something you'll have to get used to, because that's the way they are and they're not about to change; they're complex because they have to be in order to handle all the various kinds of data from various machines that they have to.

Over the next few pages, then, you're going to learn everything you need to know about printers. We're going to cover everything, from the best buys to the best printing techniques. We're going to cover the whole bit, starting by communicating with your printer.

The basics

Before we go any further, let's make sure we've got a good grasp of exactly how a CPC deals with a printer. Of course it sends messages down the ribbon cable, but what messages does it send? More importantly, how do we send them ourselves? Make sure your printer is on-line and type in the following:

```
PRINT·#8,"It's·a·printer!"
```

If your printer was on line, you'll have had your ears pierced with the sound of a dot matrix printer-head in full swing. That's a noise you'll be hearing a lot very soon. How did it work, though?

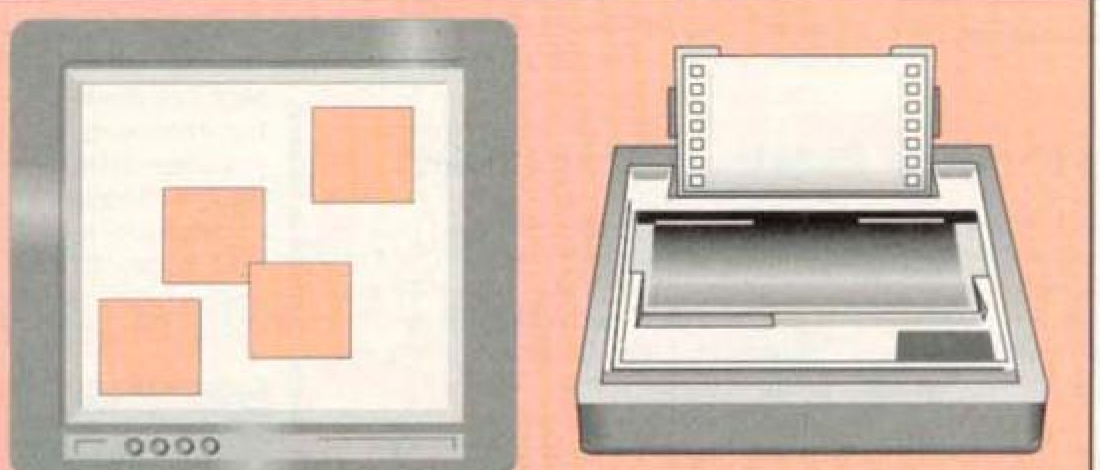
As well as just printing straight to the screen, the CPC has an ability known as streaming. This means it can send text to up to seven windows on-screen, these windows being boxes defined by the user at an earlier point. You can send text to these windows by prefixing the PRINT command's string with a # and a window number, followed by a comma. This is largely irrelevant to our printer, as it has nothing to do with what's printed on screen. The bit we're really interested in is the way the original designers added stream number 8 – the printer.

If you wanted to print a program, you'd need to type LIST·#8, which sends the list down the wire as opposed to the screen. That's how it's done.

Let's try something else, that everyone might find a use for, and machine code programmers will love. Type-in the following listing, making sure your printer is set up and ready to roll:

```
10·POKE·&BB5A,&C3:POKE·&BB5B,&2B:POKE·&BB5C,&BD
```

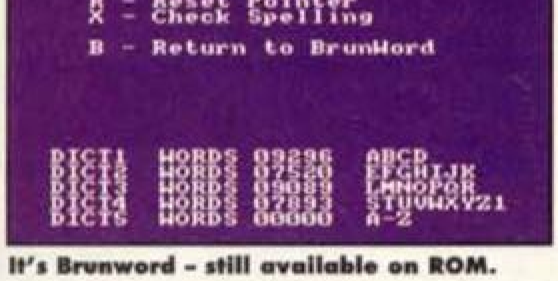
If your screen's not now responding, look at your printer, as that's where it's all coming out. All we've done is told the CPC to redirect all the text it prints to the screen to the printer instead. This is stunningly useful for printing disc catalogues, making instant notes of calculations, or anything else that might be valuable as a permanent record. There are more sophisticated ways to do these tasks though, which we'll come to later.



The screen on the left contains four windows, numbered one to four. The main screen is window zero. If you send something to window eight, it'll appeal on the printer. The first four windows could be used for text or graphical boxes in a program.

Cracking the code

So we've got BASIC communication pretty much sorted – we know how to shove things at the printer and get it to print them. If nothing comes out of your printer, you're obviously just a failure in life who'll have to submit to begging with repairmen, spending



It's Brunword – still available on ROM.

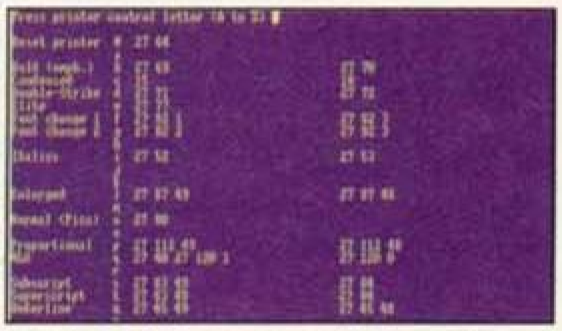
Can I or can't I?

YOU CAN print any characters up to CHR$(127).
YOU CAN'T print characters over that set, as you've only got a 7-bit printer port.
YOU CAN get an 8-bit printer port – ask at your local Tandy.
YOU CAN'T increase the resolution of your print.
YOU CAN increase the size of your lettering though, if your printer is sophisticated enough.
YOU CAN'T print on lumpy objects.
YOU CAN burn yourself on a print-head.
YOU CAN'T print in colour by sticking a colour ribbon in a black and white printer.
YOU CAN buy units to feed in several sheets of A4 automatically.
YOU CAN'T punch holes in paper with a dot matrix printer.
YOU CAN achieve anything you set your sights on (*oh, very Star Trek philosophy – Dave*).

hours standing in shops trying to get your goods replaced, and being exiled from society for being utterly inept at anything vaguely technical (sounds like Dave). Failing that, you could read our trouble-shooting box-out later on, and rejoice in just how nice we are to you.

Epson codes. I bet one third of the people reading this have curled into the foetal position and started muttering gibberish (definitely sounds like Dave). Another third will be smiling smugly, because they know just how utterly fab these little blighters are (and you lot can skip a few paragraphs). The final third is wearing a quizzical look. If your printer is Epson compatible, it'll cope with what we're about to discuss. If it's not, you'll still be able to send it codes, but the codes you're sending will be different – you can find a table of them in your manual.

Anyway, let's take a look at how these commands work. To understand the system, we need to know about ASCII codes. The ASCII set is a code system that assigns a number to each character a computer can use. The letter A, for example, has a code of 65. The numbers from 0 to 31 aren't assigned characters, though – they're used to represent back-spaces, line feeds, tab



Protext's excellent Epson compatability.

Trouble shooting

Having a problem with your printer? It might not be as bad as you at first think:

"My printer won't come on-line"

No worries – this is nearly always a problem with paper, which has to be present before your printer will start accepting any inputs. Make sure your printer knows which type of paper you're using if it needs to, as it might be sitting waiting for tractor paper while you're patiently feeding in single sheets.

Other than that, check you've switched the thing on – it does help.

"Everything is double spaced"

This month's Technical Forum has the ultimate answer to that little problem, so take a hike to page 14, buddy and check out the letter titled, 'Line-up'.

"I get paper filled with gibberish"

This could be one of two things – either you've put a plug in upside down, or your DIP switches are set incorrectly. Check the manual for the correct switch settings, and make sure everything's plugged in properly.



Double spacing means a problem with your port.

"My printer is amazingly slow"

This could be a software problem. If you're using a DTP or art package, don't worry – ice ages will pass before the damned thing finishes, but it might be a good idea to check that your program's making full use of your printer's buffer.

"I've got a flesh-eating virus"

Just don't cough on anything you send in to the *AA* office, okay?

spaces, and other simple text operations. For example, if you wanted to move the text cursor up one line, you'd print CHR$(9).

This is where Epson codes come into play – a printer will happily print the character corresponding to the ASCII code it's given. When it comes across the code 27 it behaves very differently. 27 is the escape code, and it tells the printer that the next numbers along the line will be instructions instead of text.

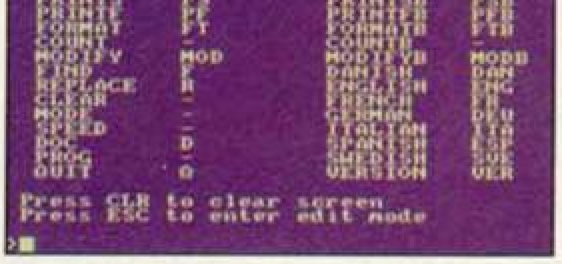
If you wanted italic text (*slanty writing, like this comment – Dave*), you'd send the codes 27 and 52 to the printer, 27 being the escape code and 52 being the instruction itself. Let's try that out. First, type the following into BASIC, making sure you have your printer on-line and ready to go:

```
PRINT #8,"Amstrad Action"
```

Then try:

```
PRINT #8,CHR$(27);CHR$(52);"Amstrad Action"
```

Spot the difference in what's been printed out? The second one was in italics. To turn them off



If you've got a printer, get Protext.

Buying your printer

If you haven't already got a printer, it's something you really ought to consider buying. They can be really incredibly useful throughout your computing life, and can be taken from one computer to another, so you won't necessarily have to buy a new one when you upgrade.

So what should you look for in a printer? The following guidelines should help you out:

- **If it has Centronics or parallel ports, it'll work with your machine.**
- **CPS stands for characters per second – it's the universal rating for speed.**
- **The more pins the better the quality of the output. Nine-pins printers are the commonest cheap printers, but the output always looks 'dotty' (in a literal sense). 24-pin printers produce much smoother results.**
- **Manual – you wouldn't believe it, but a good, clear manual can make or break a printer.**
- **Ease of use – if you're a starter, the less buttons the better. The optimum button count is three for a newcomer, we reckon.**
- **Aesthetics – this is a printer, not a 2CV. If you're buying printers these days, always make sure it looks worth the money you spent.**
- **DIP switch position – it's not a *real* printer unless you can get to the DIP switches easily.**
- **Expandability – a printer that can be added to over time (sheet feeders, a colour option, more buffer memory) is always a good thing, as you'll have a piece of technology that can keep up with the rest of your system as it develops.**

Jargon busting

Printers have managed to create an entirely new branch of the English language (not including all the swear words you use when the darned things go wrong). If it's all greek to you, here are a few definitions to ease your way:

- **BUFFER:** A small amount of memory your printer has to store information before it's printed. Really good printers have buffers big enough to store entire documents at a time.
- **DIP SWITCHES:** Little rows of tiny switches that manufacturers love to hide in inaccessible places on your printer. They set the way the printer behaves, what language it prints in, what font it uses by default, and what communication system it's using (parallel being the standard). All the relevant details should be in the printer manual.
- **DOT MATRIX:** This is the method of printing onto which uses a series of 'pins' in a line which hit the ribbon in various combinations to form the letters on the paper (see the relevant box-out). Dot matrix printers come with a range of pin resolutions, the normal being 9, and the high-quality being 24. You can think of the number of pins as a rating of resolution, if it makes it any easier.
- **DRAFT QUALITY:** See NLQ.
- **DOUBLE SPACING:** leaving a blank line between every printed line, a style used in business documents a lot (for some reason).
- **EPSON CODES:** A special system of more advanced communication between most printers and most computers.
- **FORM FEED:** The printer function which tells it to start printing on a new sheet of paper.
- **FRICTION FEED:** This is where things get confusing. This use of the word 'feed' refers to the way the paper is

again (you'll be stuck with them until you turn your printer off otherwise), use:

```
PRINT #8,CHR$(27);CHR$(53);
```

53, you see, is the code to turn italics off. Now seems like a damned good time to go through some other handy codes, actually, so check out the table titles Epson codes (well you try coming up with a clever pun of Epson that doesn't arbitrarily involve horses). You'll see some actions appear more than once, so if a code doesn't work with your printer, try one of the alternatives and you should get a result. These codes are sometimes more than two numbers long, by the way, but your printer will know what to do, so just keep going as normal.

Graphics

Printing graphics varies from printer to printer. If you look on our table of Epson codes, you can find bitmap image modes that will directly translate the information you send onto paper, instead of turning it into a character and printing that.

After issuing the command for bitmap images (it will change from printer to printer quite dramatically sometimes) you can send your images to the printer pixel by pixel, using the bits of the bytes. We could go into a full explanation here, but it really gets a bit too complicated and long winded and there are no real graphic printing operations that can't be performed by a normal printer dump program though, so you don't need to worry too much.

Utilities

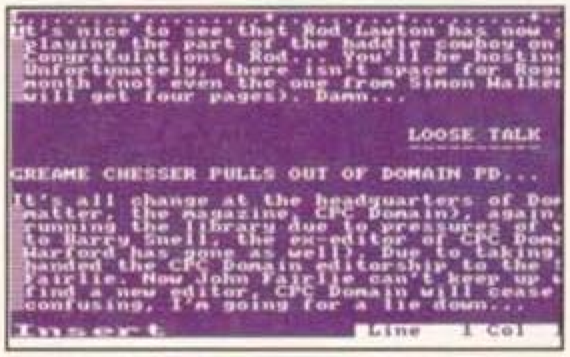
Some people would like to do a little more than print text, it would seem. If you happen to be unlucky enough to own a printer and not a picture dump program, you won't have any way of getting graphics onto paper (dump is the verb for printing something out, and no smutty laughing at the back). Though we don't have space to print any such programs here, we will be including one on next month's covertape.

If you really can't wait that long, you could always try a PD library for what you want. A library without a screen dump program is like a building without doors – no-one uses it, and people think the owner's stupid. If you've written a printer utility of any kind, there might still be time to get it to us for inclusion on the tape, by the way.

Epson codes

What follows is a short list of some of the more useful Epson codes. Remember that each set of numbers is preceded by a 27. For many of the functions given, you'll find an off code as well:

Action	On	Off
Reset printer	64	
Bold	69	70
Condensed	15	18
Double strike	71	72
Elite	77	
Italics	52	53
Enlarged	87,49	87,48
Pica	80	
Proportional	112,49	112,48
NLQ	40,27,120,1	120,0
Subscript	83,49	84
Superscript	83,48	84
Underline	45,49	45,48
Line feed	10	
Form feed	12	
Beep	7 *(Beep? – Dave)*	



Proof that CPC WPs are good – we use 'em.

Colour Printing

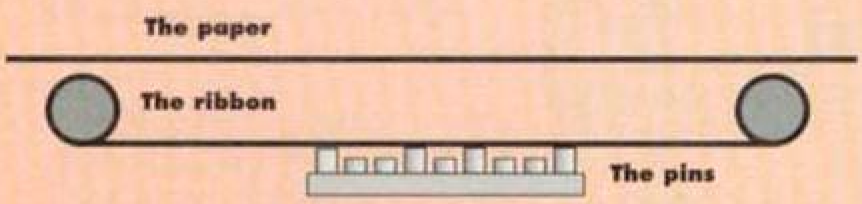
To print in glorious technicolour (well, colour, anyway) you need a colour printer. Just throwing a colour ribbon into a black and white printer won't cut it – the print head has to be able to shift up and down to access the other areas of the ribbon (the yellow, red and blue areas that make up the colour spectrum). You'll find all the relevant codes for controlling colour print-outs directly in the back of your manual; they can be used in the same way as any other Epson codes.

But there is lots of software around that has colour printing facilities. Art packages such as *OCP Art Studio* will happily print in colour and there are many specialised printer dump programs in the public domain – ask your favourite PD library to recommend one (if they can't, get a new favourite PD library).

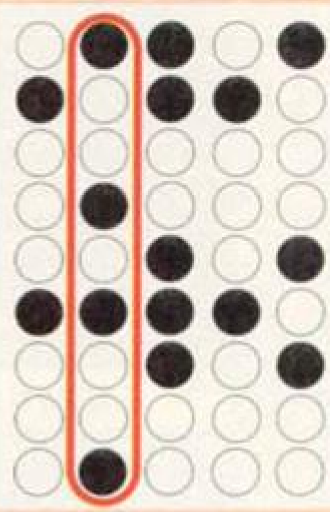
Paper sizes

If you've followed our buyer's guide or were lucky when buying the printer you already own, you'll be able to print on both continuous feed and tractor feed paper. Though it comes at around £3 per ream, printing on single sheet A4 paper is always your best bet – tractor feed paper is always thin, tacky, and utterly the wrong size. It sounds like a fairly unimportant point, but A4 is a standard paper size, and you'll find you're having a lot less trouble with envelopes, fax machines, folders and the like – everything works to A4, so you'd be best to do the same.

9-pin dot-matrix printing – the truth!



The pins strike the ribbon and press dots onto the paper to create an image made up of dots (highlighted on the right). We really had no idea what character we were trying to print, but this diagram can also serve as a warning about what will happen if you wire your printer up without paying close attention.



Machine Code

There have got to be a lot of excellent programmers out there who really want to make some use of their printers and maybe write a utility or two themselves. If you're short on the information for managing a printer from machine code, the following three firmware jumpblock entries are all you really need:

&BD2B – MC Print Character

This routine will send a character to the printer, though will return if it had to wait

dragged though the printer, friction feed being single sheet paper dragged by friction (a wheel to you and me).

● **INKJET:** Is there much to explain with a word like that? It refers to the way some printers squirt a jet of ink onto the paper to form images.

● **LASER PRINTER:** These are the advanced printers used by PCs and Macs. As yet, no-one seems to have managed fitting one onto a CPC, but no doubt they will now.

● **LINE FEED:** Similar to form feed, but moving the paper up (and consequently the text position down) by only one line.

● **NLQ:** This means Near Letter Quality and is the opposite of draft quality. Some printers allow you to have two printing standards, draft quality being inferior and really showing its dots. But draft quality printing doesn't wear out the printer ribbon as fast, which means that if you can get away with an inferior quality print-out (copies for your own reference, test copies, things like that) draft quality is more economical.

● **ON-LINE:** The term used to describe a printer when it's got its paper and it's waiting for input from the computer.

● **PARALLEL:** The type of printer port your CPC uses. If you see the word Centronics on your printer, that'll be okay, too. Avoid RS232-only printers like the plague, though.

● **SELF TESTS:** If you turn on your printer and hold down a certain combination of buttons, it'll slide into a self-test mode in which it prints every character it knows for you to inspect. You can usually find the correct button-combination in your printer manual.

● **TRACTOR FEED:** The method of dragging paper (see friction feed) using the holes found on the side of fan-fold tractor printer paper.

● **WYSIWYG:** What You See Is What You Get. Used to describe a package, etc, that gives an accurate on-screen representation of what your printed document will look like.

for over 0.4 seconds. On entry, the accumulator contains the character to be printed. On exit, the carry flag will be set if the printer was busy, and null if the printing was successful. All other flags corrupt.

&BD2E – MC Printer Busy
This one tests to see whether the printer is busy. There are no entry conditions, it just has to be called. If the printer is too busy to accept more characters, the carry flag will be set. Obviously, if everything is clear, the flag will be null. All other flags corrupt.

&BD31 – MC Send Printer
This is similar to &BD2B, except that it doesn't handle things such as busy printers, and just slings the character down the line. On entry the accumulator must contain the character to be printer. On exit, the accumulator corrupts, along with the flags.

That's it, then

We hope we've helped clear a few things in this feature – we can't deal with every individual problem because printers vary so much, and they've never been user-friendly machines, a problem that's only magnified by Amstrad's brilliantly awkward compatibility design. But if you are having trouble with your printer, Techy Forum is the place to write to.

Talking of writing in, that reminds me of the real reason we did this feature – to encourage all of you lot to get printers so that when you send us letters, we can actually read them. And that goes especially for Mr, er, something beginning with D and with two 'I's' in the middle. Or are they 't's'?

Recommended

Star

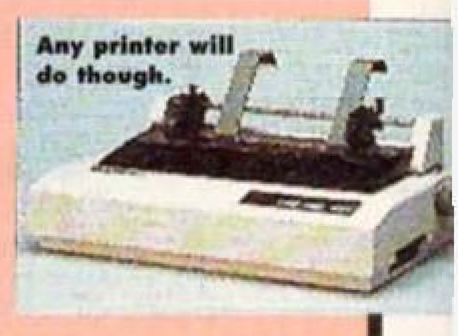
If you're looking for a good, reliable printer, you can't go far wrong with a Star. Their LC range starts at 8-pin black and white and goes through to 24-pin colour. A colour printer is a strange beast indeed, though you can still find plenty of software to support it (though very little on the DTP side) and it has extra control codes to deal with switching colours manually. On the whole, Star printers are truly wonderful little machines, and a decent 9-pin B&W job should set you back around £150 from just about anywhere – if you're in a shop that can't sell you one, the odds are you're in a butcher's.
STAR ☎ 0800 525686



The Star – always an excellent choice.

Citizen

Quite recently, Citizen announced the release of their new 24-pin colour printer aimed specifically at the home user for a slightly heavier £180. Still, you're paying for 24-pin colour that puts most other printers to shame, and can perform admirably on a PC or Amiga as well. The other advantage of the ABC printer (nice name) is that it was obviously designed for people who like to play – there are more detachable, swivelable, click and clunkable pieces on this printer than a Sherman tank. It's the ultimate in polypropene joy, and can be found in any high street shop. For a full review, take a look at issue 102.
CITIZEN ☎ 0494 471111



Any printer will do though.

Amstrad

Oh deary me – the DMP range. Having grown up with a DMP 3160, I think I can quite safely claim the title of 'King of the Printer Problems'. It's not that Amstrad's printers are especially unreliable, it's just that finding spare parts such as new ribbons (they wear out quite quickly with a DMP) to fit your already obsolete model can be a real problem. The range starts with the DMP 2 and climbs through the thousands up to the 3000 (the 3160 was a different edition). The 3000 is probably your safest buy, costing around £160 from any computer shops that stock other Amstrad equipment (like their PCs, oh dear).
AMSTRAD ☎ 0277 228888

Assembly Line



Simon Forrester had created a monster. It went on a rampage, destroying everything in its path. It's now unstoppable. Witness the horror of another month's Assembly Line.



BASIC. It's pig of a language, but we've already become slaves to it – the Type-Ins are in BASIC, as are most covertape submissions we receive. The problems BASIC programs pose for the machine code programmer go beyond having to resort to it to load our faster, more powerful machine code programs. There'll come a time when we have to interact with it a little better, though.

Take a look at *DES* – Campursoft's most excellent desktop system has to somehow load and run a BASIC program from machine code. Think about it – it's not easy, is it? Sure, you could probably load a BASIC program into memory without too much trouble, but actually running the thing is a different bag altogether.

Rules

The first thing about BASIC we have to remember is that it's a piece of ROM software. The second thing is that it's a piece of ROM software that was not designed to be interfered with; having BASIC as the start-up language means that the software doesn't expect to be dealt with by any system other than itself.

Let's look at the way BASIC and its programs sit in our environment – Z80 machine code. First, we'll look at how it sits in memory with a handy screen grab courtesy of *HackIt* (below). Before that, I'd just like to introduce my new patronising explanation device (*Hi – Reason*), known simply as the Voice of Reason.

As you can see, the BASIC program starts at &40, and finishes wherever it feels like it. This limit is set by a value known as HiMem, this being BASIC's pointer as to where it's going to finish. At the beginning of most BASIC programs that dabble with machine code, you'll find a MEMORY command, which tells BASIC where to stop and, if it hasn't already exceeded that point, it'll stop there. With a little bit of luck.

The BASIC software comes in two sections; the program sitting in the ROM and the variables (work space) at the top of memory. The ROM occupies the area of memory from &C000 to &FFFF so we don't need to worry about the layout of the software for the minute (*doesn't the screen sit there, though? See the boxout – Reason*). What we will take a look at, though, is the layout of the variable workspace.

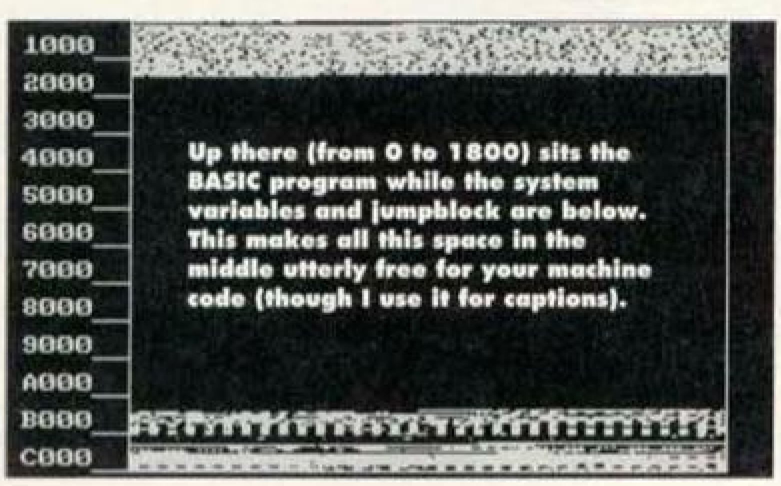


BASIC's Workspace

If you're a disc owner, your HiMem value can be as low as &A67B, as ROM 7, the disc operating ROM, uses a little workspace of its own. The BASIC workspace sits in between the DOS (if you have one) and the jumpblock. 464 owners will therefore be able to tell you that BASIC's workspace starts at &AB7F. We don't need to worry about where it ends.

If you're programming for compatibility on all machines, by the way, it's best to steer clear of the memory used by the disc ROM – disc users might still want to use it (*it's best to stop your programs going over &A000 if you can help it anyway, as some people have lots of ROMs on their machines, and therefore a much lower HiMem value – Reason*).

So now we know exactly where we can place our machine code programs. The important thing is to never work below HiMem, as not only do things get dangerous for your BASIC program but they get pretty naff for your machine code as well – BASIC will quite happily trounce your code by impaling it on BASIC buffer workspace.



Up there (from 0 to 1800) sits the BASIC program while the system variables and jumpblock are below. This makes all this space in the middle utterly free for your machine code (though I use it for captions).

What happened to the screen?

Good question. The thing is, BASIC sits in a ROM, that in turn sits at &C000, along with every other ROM. The big problem is that the screen sits there as well. This is a problem, and needs a diagram to help out with the explanation, so here it is:



The ROMs sit behind the screen RAM in series, as seen here.

First, the screen memory just sits in memory as normal. It does absolutely nothing special that you haven't seen before. Everything else from then on is banked, however – it sits completely invisible from the rest of the machine until it's needed, at which point the firmware can switch it on and look at it. From this point on, it sits at &C000, even though the screen remains un-corrupted – writing to that area of memory will put bytes into the screen RAM, whereas reading from that area will produce bytes from the ROM.

These ROMs can be switched with a simple jumpblock entry:



&B90F – KL ROM Select
This firmware entry selects the ROM given in the accumulator. On exit, BC corrupts.

&B903 – KL U ROM Disable
It just kills all ROMs, letting you look at the normal screen RAM. There are no entry conditions, but A and the flags corrupt on exit.

Next month

Next month, I'll be looking at ways to load and run BASIC programs from machine code, and fully integrate the two. I'll also be looking at ways of storing those smaller BASIC programs in the extra banks of your 128k (if you've got 128k, that is). 'Til then, have fun (er, and hopefully continue having fun when 'then' comes).

CONT. FROM PAGE 8

Bargains! All boxed, discs with manuals: Protext £15. Elite £5. Sim City £5. OCP Art Studio and mouse £25. Blank discs, old AAs £1 each or £50 for everything. Tel Martin (0484 843034.

CPC tape games for sale. All original. No copies. Lots of titles from 50p. Send SAE for list to Eddie, 151 Balsusney Road, Kirkaldy, Fife KY2 5LH.

CPC6128, colour, 3.5-inch drive, ROMbox; Protext, Promerge, Prospell, SDOS ROMS. Multiface; Stop Press; many games; ACU and AA; covertapes; Soft 968; 3D Construction Kit with video; mouse; and much more. £150ono. Ring Graham on 041 634 2344 for details.

Amstrad CPC464, colour monitor, keyboard, printer, disc drive, loads of tape and disc games, AMX mouse and art package, Multiface 2, 3D Construction Kit, Protext. £300. Tel 0376 320451.

Tandy TRS-80-II plus external drive £100. Also many AAs and ACUs and a few CWTAs. All £2 each or £50 for 40 mags. Write to Karl, Bryn Trefor, Llandecwyn, Gwynedd, North Wales LL47 6YR.

PC Engine 16-bit hand-held for sale with 14 top games including Street Fighter 2 Championship edition, Airzone and Batman plus Japanese converter plus PSU £250ono. Tel Daniel on 0925 828861.

Amstrad CPC464 colour monitor plus over 70 games, magazines and manual joystick. Good working condition and black computer unit. £150ono. Jim 0233 635039.

Amstrad ROM development system, EPROM blower and eraser, AMRAM 2, ROMBO ROMBOX with Utopia, CPM ROM and RODOS ROMS £100. Also serial interface with Comstar £20. 8-bit printer port £20. Phone 0621 782147.

Amstrad 6128 Plus without monitor and leads hence only £35 including postage. Ideal for 464 Plus upgrade. Tel 0527 597707 (Redditch).

Thunderblade and Outrun, will swap for They Stole A Million, Werner, Ikari Warriors, Light Force, Xenon, Druid, Spindizzy, Impossible Mission 2, Supercars, or will buy above games. Tel 0256 762244.

CPC664 with 40025 ROM, DK'Tronics 63K RAMpack, manuals, Amstrad Action issues 80-104 with tapes, CPM+, Protext, various disk/tape games and tape recorder £250ono. May split. 0533 414535.

CPC464 with colour monitor, joystick, manual, and 40 games, plus serious stuff – word processor and Soft 156. Amstrad Basic tutorial guide. £130ono. Dennis 0843 223671 (Kent).

Games, Take 5 – compilation of five games for one player. Amusement Arcade – three slot machine games. Either one at £2.50 per copy on tape/disc. M Goodall, 83 High Street, Galashiels TD1 1RZ.

Magazines, games, books for CPCs for sale (including Soft 158 Firmware Guide) second-hand, good condition. Send SAE for list to A Swinbourne, 11 Vicarage View, Redditch, Worcs B97 4RF. Phone 0527 68419.

Games for sale. All originals. Include some classics. Mostly tapes. Please send SSAE to David Barnsby, 10 Churchill Road, Earl's Barton, Northants NN6 0PQ.

Amstrad CPC464 green screen monitor with MP1 joystick, control pad and over 60 games on tape. AA mags 97-104. Quick sale £60. Tel 0890 883385.

Amstrad stuff. Tape games, disc games, hardware etc. SAE to Darren Littlewood, 33 Clay Flatt Lane, Rossington, Doncaster S Yorks DN11 0AZ.

Star LC24-10 printer. Full working order. Still boxed. £90 including p&p. No offers. Tel Darren 0302 864730. Also Light Gun £15. RAMDOS £10. AMX Mouse Art Stop Press £30.

Amstrad CPC464 computer with green monitor, users manual, over 30 games, word processor, cassette and joystick. All very good condition. £75ono. Contact Glen 061 740 2688.

Multiface, Insider, books including Soft 968, AAs, ACUs, software inc. Maxam, Lemmings. £400-worth, will sell for £200 or split. Buyer collects (Cardiff). Rachael 0222 530607.

Assorted computer games, all new to suit Amiga, Atari ST, C64, Amstrad and IBM PC. All popular titles. Prices starting from £1. Phone 0332 771303.

Amstrad CPC464, colour monitor, joystick and games, VGC. £90ono. Tel 0543 506095 (Cannock area) after 4pm.

CPC464 with colour monitor, disc drive, Multiface 2, 64k upgrade, AMX Mouse, loads of games, Mini Office 2, OCP Art Studio, VGC. £300. Tel 0933 674441 (5-9pm).

Games sale. Full pricers from £2.50. Budget from 50p. carts from £5. All games are on tape (*er, apart from the ones on cart surely? – Dave*). Includes Super Cauldron and Nigel Mansell World Champ. Phone Neil 0865 379552.

CPC6128, colour/monochrome monitors, RS232, joystick, printer Brother M1009, office software, games (Kung Fu Magick, X-Out). Lots more. 26 magazines, five books, cables, manuals. Crazy price – £199. Tel Smith ansaphone 0283 221640.

For sale – lots of Amstrad CPC software (serious/games, tape and disc) and magazines. Reasonable prices. Send SAE for list to: M Ruegg, 8 The Horse Park, Carrickfergus, Co Antrim, BT38 7ED.

Amstrad CPC6128, colour monitor, keyboard, disk drive, joystick, bug, manual, word processing packages, Mini Office, Protext, 22 games, AA mags, excellent condition, £150. Tel 0772 600532.

Amstrad 464, green monitor, Amstrad Basic, also other books, all manuals, many tape games and utilities. Excellent condition. Five years AA, all bound. £100 the lot. Phone 081 898 2989 after 5pm.

CPC6128, colour monitor, disc drive, arcade joystick, head cleaner, manual. Over 20 games including Driller, F16, Batman. Dust covers, over 20 AAs. Excellent working condition (what, the AAs? – Dave). £195ono. Tony 0732 833756 (Sevenoaks) evenings, weekends.

Tas-sign for CPC6128. Sign/poster making program on disc. As new. £20. 081 422 5372.

DK'Tronics Light Pen for CPC6128, includes all instructions, ROM software, tape software, fully boxed. Will swap for ROMDOS XL or Dart Scanner or sell for £20. Interested? Phone 0887 820599 4pm-8pm weekdays – Graeme.

Amstrad 6128, green screen, Mini Office, mouse, joystick, manual, utilities, games and tapes. Mags and lots of spare disks, DTP, PD software. £100. Chris 091 977 1714.

Amstrad 464 plus tapes for sale. All excellent condition. From £2. Simpsons, Terminator, Wrestle Mania, etc. For list send SAE to Charlotte Duff, 77 Fairway, Kinsley, Northampton, NN2 7JX.

Amstrad CPC6128, colour monitor, genius mouse, two joysticks, software (Mini Office 2, OCP Art Studio, Lemmings and Addams Family). VGC. £200ono. 0243 552404 (West Sussex).

Amstrad 464 Plus, colour monitor, over 80 games, two joysticks, instruction manual, excellent condition. First to see will buy. £100ono. Tel Stephen 03552 44732.

Amstrad 6128 Plus, colour monitor, manual, CPM disc. One game. £130ono. 0706 624106. (Heywood).

AA back issues as new with appropriate covertapes. Issues 51-101. Will sell in lots of 10 for £20 only plus postage. Also, over 50 tapes to clear. Phone Coventry 0203 635308.

Protext ROM £15. Graduate software CPM+ ROMS £20. ROMDOS XL ROM £15. Phone 0738 29536.

Amstrad CPC6128 with colour monitor in excellent working order, manual, original system discs, dust cover, joystick, over 20discs including WWF, Sim City, Lemmings. £130. Phone Stephen 081 452 5242.

Amstrad CPC464 with colour monitor, joystick, over 300 games. Excellent condition. Will accept £125ono. Phone Robert, 0753 860884.

OTHER

Pacific Software – send SAE for a list of highly rated homebrew and PD titles at superb prices and with fast delivery. 37 Trimingham drive, Bury, Greater Manchester, BL8 1JW.

CPC Undercover – top reviews, up-to-date news, excellent features. Coverdisc too. All for only 80p plus SAE plus disc.37 Trimingham drive, Bury, Greater Manchester, BL8 1JW.

Swap several Amstrad games for any SNES UK PAL version games. Send SAE with list of SNES games to Martin Scanlon, 5 mary Street, Glin, Co. Limerick, Eire.

Wanted: pen-pals from any country. I have a CPC464 and 6128. All letters answered. Chris Hine, 29 Moonee Beach Road, Moonee, Coffs Harbour, New South Wales, 2950, Australia.



Amscene Directory

PD Libraries

Amsof
✉ Lissenly, Cloyne, Middleton, Ireland
Large range of European stuff.

Braysoft
✉ 2 St Margaret's Road, Hayling Island, Hants, PO11 9BP.
3-inch disks only.

Colrob PD
✉ 9 Aviemore Road, Hemlington, Middlesborough
New tape-only PD library

Demon
✉ 47 Hilton Avenue, Hall Green, Birmingham B28 0PE
3.5-inch discs available.

Disk PD
✉ Lower Dexbeer, Dexbeer, Holsworthy, Devon EX22 7LA.
☎ 0288 82348

GD PD
✉ 49 Woodville, Barnstaple, Devon EX31 2HL

Image PD
✉ Darren Dodds, 15 Elmwood Drive, Ponteland, Newcastle-Upon-Tyne NE20 9QQ
Also provides a digitising service.

PD Fun
✉ 41 Michaelgate, Kirkby Lonsdale, Via Carnforth, Lancs LA6 2BE
A policy of 'no serious software'.

Power PD
✉ 83 Longleat, Great Barr, Birmingham, West Midlands B43.

Signal Software
✉ 83 Longleat, Great Barr, Birmingham, West Midlands B43.

Sheepsoft
☎ 0446 736529

Sleepwalker PD
✉ Disk software: Joe Moulding, 9 Meeting House Lane, Balsall Common, Nr Coventry CV7 7FX

The Vault
✉ 43 Windfield Gardens, Clybaun Road, Galway, Ireland.
☎ 010 353 91 28204
Lots of European software.

Ultimate PD
✉ 26 Woodside Road, Irby, Wirral, Merseyside L61 4UL
Specialises in 3-inch disk and tapes.

Fanzines

Amszine
✉ Gayton, Laneside Road, New Mills, Via Stockport, SK12 4LU
☎ 0663 744863

The Eliminator
✉ 14 Station Road, Riccall, York, North Yorkshire YO4 6QJ

CPC User
☎ 0329 234291
The UAUG's fanzine.

CPC Undercover
✉ 37 Trimingham Drive, Brandlesholme, Bury, Lancashire
A technically-minded fanzine that's also on the look out for writers.

Ultra Games
✉ 20 Lancaster Terrace, Chester-Le-Street, Co Durham, DH3 3NW
Cassette-based multi-format fanzine.

User Groups

Amstrad Contact
☎ 0403 753348
Sussex-based group that also runs a technical helpline for CPC users.

UAUG (United Amstrad User Group)
☎ 0329 234291
An AA-recommended user group.

WACCI
☎ 0602 725108
They're fab. Give 'em a ring.

Independent Software Companies

Campursoft
☎ 041 554 4735
You name it, they do it, really – take a look at the interview in ish 96.

DMP Software
✉ 89 Wolverhampton Road, Codsall, Wolverhampton WV8 1PL
Over 30 home-programmed games and serious programs on both tape and disk.

New Age Software
☎ 01049-711-4201920
Responsible for Zap'T'Balls, the excellent *Soundtrakker*, and, hopefully, a few more titles pretty soon.

Radical Software
☎ 081 856 8402
Still producing top-quality software for the CPC.

SD Microsystems
☎ 0760 720381
Specialists in business software.

Sentinel Software
☎ 081 876 7032
Suppliers of selected STS titles and a few original products.

Siren Software
☎ 061 724 7572

Hardware

Datel ☎ 0782 744707
The place to go for mice, printers, memory expansions, all that sort of stuff.

Microform Fax: 0772 703131
Drives, upgrades, disks, all sorts of techy stuff like that.

WAVE ☎ 0229 829109
Suppliers of loadsa good stuff – their ad is on the back cover.

Software suppliers

OJ Software ☎ 0257 421915
Fast friendly service, the ad says. And it's right. They've got an impressively wide variety of software on offer as well.

Software Cavern
☎ 0628 891101
Probably the largest selection of CPC software for sale in the known universe.

Software Express
☎ 0463 240168
A new company in Inverness.

Tronics North
☎ 010 6177 253 766
✉ PO Box 7419, Garbutt, Queensland Australia, 4814.
The largest supplier of software and CPC bits'n'pieces in the southern hemisphere.

Mail Order

Trading Post ☎ 0952 462135
They're offering loads of cut-price cartridges at the moment.

Trojan ☎ 0554 777993
The people to speak to for cartridge and lightgun stuff.

Wizard Games ☎ 0723 376586
Games, games and yet more games, basically on every imaginable format.

Upgrade s and repairs

HEC
✉ 47-49 Railway Road, Leigh, Lancashire WN7 4AA.
☎ 0942 261866
They've been around for ages, guarantee a fast turn-around, and must be a much better bet than Avatar. Give 'em a go.

Type-ins

It's more than just a computer listings service. How much more? Er, hard to say. Why not read it and find out...

Typing listings

If you've never typed in a listing from *AA* before, then reading the following blurb is a REALLY GOOD IDEA.

- **Basically, all you need to do is make sure you type in exactly what we print EXCEPT the first four letters in each line.**
- **The first four letters are a code which work in conjunction with our unique and utterly excellent *TypeChecker* program below.**
- **Only press RETURN when you get to the end of a command line. If a command line goes on to two lines do not press RETURN at the break in the line. Your lines on screen should break in exactly the same place as they do in the mag.**
- **The dots you see in some lines (like the one between well and done in `PRINT"Well·done"`) indicate spaces. The dots are there so that you don't have to guess how many spaces to put in when there are more than one.**

TypeChecker

This program lets you to check whether you've typed *AA* listings in correctly. Type it in, then SAVE it for future use. When you want to double check that you typed a listing in correctly:

- **Load up *TypeChecker*.**
- **Type NEW.**
- **Type in the listing of your choice.**
- **When you've finished type LIST.**
- **At the end of every line a highlighted code will appear. It should correspond with the code printed in front of the same line in *AA*. If it doesn't you have typed in that line incorrectly.**

```
PAML 10·'·TypeChecker·V1.0·-·By·Simon·Forrest
     er·-·Dec·1992
MAOJ 20·'·For·Amstrad·Action·-·Public·Domain
DANK 30·MEMORY·&9FFF
CAJK 40·csum=0
GAME 50·FOR·addr=&A000·TO·&A05B
DAKJ 60·READ·byte$
GAJB 70·byte=VAL("&"+byte$)
FACF 80·POKE·addr,byte
GAFB 90·csum=csum+byte
DALK 100·NEXT·addr
OACI 110·IF·csum<>&2ADD·THEN·PRINT·"Checksum·
     Error":END
LAHE 115·POKE·&A001,PEEK·(&BB5B):POKE·&A002,P
     EEK·(&BB5C)
KAHI 120·POKE·&BB5A,&C3:POKE·&BB5B,&3:POKE·&B
     B5C,&A0
MACN 130·PRINT·"TypeChecker·V1.0·Installed":E
     ND
MABC 140·DATA·CF,FE,93,FE,0A,CA,00,A0,F5,C5,D
     5,E5,FE,0D,CA,22
LACJ 150·DATA·A0,5F,16,00,2A,5A,A0,19,22,5A,A
     0,E1,D1,C1,F1,C3
LAFJ 160·DATA·00,A0,3E,20,CD,00,A0,3E,18,CD,0
     0,A0,2A,5A,A0,7C
LADI 170·DATA·CD,45,A0,7D,CD,45,A0,3E,18,CD,0
     0,A0,21,00,00,22
LACN 180·DATA·5A,A0,C3,1B,A0,F5,E6,0F,C6,41,C
     D,00,A0,F1,E6,F0
KAJC 190·DATA·1F,1F,1F,1F,C6,41,CD,00,A0,C9,0
     0,00,END
```

Turning *TypeChecker* off (it is automatically initialised when you RUN the program above) and back on again is quite simple:

```
POKE &BB5B,0    To turn it off
POKE &BB5B,3    To turn it back on again
```

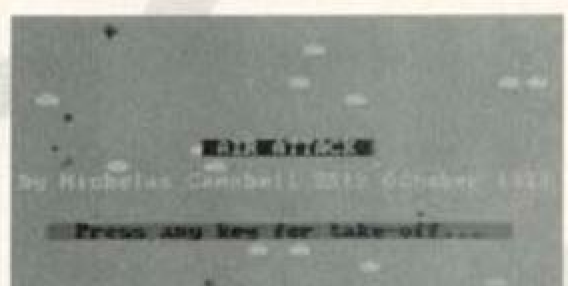
Isn't science amazing? (Now don't argue.)

This month, Nicholas Campbell gets dragged kicking and screaming into the limelight, along with three of his works, to astound and amaze you. The dissected listing is probably the most impressive, but the other two are funkier than something very funky indeed.

Air Attack

This month's Basically BASIC (page 13) deals with the mechanics of racing games like this one. The methods used in this listing are a little more straightforward and quite a lot faster, but they don't lend themselves to teaching people BASIC. All this is irrelevant, though. You can use the cursor keys to steer your plane left and right, avoiding absolutely everything else on the screen (even clouds hurt these days). Start typing:

```
LBHG 10·RESTORE:DIM·sky(4),hit$(4):SYMBOL·AFT
     ER·240:FOR·addr=&BF01·TO·&BF07:READ·h$:P
     OKE·addr,VAL("&"+h$):NEXT
OBNN 20·MODE·1:INK·0,14:INK·1,0:BORDER·0:INK·
     2,26:INK·3,10:PAPER·0:PEN·2:CLS:SYMBOL·2
     44,0,0,3,31,63,63,31,0:SYMBOL·245,0,0,19
     2,248,252,252,248,0
HDDA 30·cloud$=CHR$(244)+CHR$(245):FOR·cloud=
     1·TO·20:LOCATE·RND*36+2,RND*22+2:PRINT·c
     loud$;:NEXT:PEN·1:LOCATE·RND*37+2,2:SYMB
     OL·240,0,56,16,254,124,56,16,16:PRINT·CH
     R$(240);:SYMBOL·241,16,56,124,254,84,68,
     0,0:SYMBOL·252,0,0,0,16,56,16,56,0
PCHE 40·FOR·enemy=1·TO·3:x=RND*37+2:y=RND*14+
     10:LOCATE·x,y:PEN·3:PRINT·CHR$(241);:mis
     sile=RND*10:IF·missile<5·THEN·LOCATE·x,y
     -(RND*4+1):PEN·1:PRINT·CHR$(252);:DATA·c
     d,60,bb,32,00,bf,c9
ODJD 50·NEXT:FOR·flak=1·TO·15:LOCATE·RND*37+2
     ,RND*23+2:PEN·RND*3:PRINT·CHR$(144);:NEX
     T:LOCATE·2,23:PEN·3:PRINT"Last·Score:":L
     OCATE·2,24:PRINT"Hiscore···:":PEN·1:LOCA
     TE·13,23:PRINT·sc:LOCATE·13,24:PRINT·hi:
     SYMBOL·255,144,208,176,144,7,8,8,7:LOCAT
     E·39,24
IDLF 60·PRINT·CHR$(255):PAPER·1:PEN·2:LOCATE·
     15,9:PRINT"·AIR·ATTACK·":PAPER·0:LOCATE·
     2,11:PRINT"by·Nicholas·Campbell·25th·Oct
     ober·1993":PAPER·3:PEN·1:LOCATE·4,14:PRI
     NT"··Press·any·key·for·take-off...··":CA
     LL·&BB18
KBIN 70·RESTORE·70:FOR·sk=0·TO·4:READ·skcol:s
     ky(sk)=skcol:NEXT:xp=20:sc=0:PAPER·0:CLS
     :DATA·14,11,5,2,1
ODFN 80·LOCATE·xp,1:CALL·&BF01:c=PEEK(&BF00):
     IF·c=244·OR·c=245·THEN·hit=1:GOTO·140·EL
     SE·IF·c=241·THEN·hit=2:GOTO·140·ELSE·IF·
     c=252·THEN·hit=3:GOTO·140·ELSE·IF·c=144·
     THEN·hit=4:GOTO·140·ELSE·LOCATE·xp,1:PEN
     ·1:PRINT·CHR$(240);:SOUND·135,RND*1000+3
     000,15,15,,,RND
NCGI 90·sc=sc+1:PEN·2:LOCATE·RND*38+1,25:PRIN
     T·cloud$;:x=RND*39+1:LOCATE·x,25:PEN·3:P
     RINT·CHR$(241);:missile=RND*10:IF·missil
     e<5·THEN·LOCATE·x,25-(RND*4+1):PEN·1:PRI
     NT·CHR$(252);
HCNN 100·LOCATE·RND*39+1,25:PEN·RND*3:PRINT·C
     HR$(144);CHR$(10):IF·INKEY(27)>-1·THEN·W
     HILE·INKEY$<>"":WEND:BORDER·13:LOCATE·xp
     ,1:PEN·1:PRINT·CHR$(240);:CALL·&BB18:BOR
     DER·0
GBKK 110·IF·(INKEY(8)>-1·OR·INKEY(74)>-1)·THE
     N·LOCATE·xp,1:PRINT"·";:xp=xp-1:IF·xp=0·
     THEN·xp=1
HBLA 120·IF·(INKEY(1)>-1·OR·INKEY(75)>-1)·THE
     N·LOCATE·xp,1:PRINT"·";:xp=xp+1:IF·xp=41
     ·THEN·xp=40
DBCC 130·sk=INT(sc/350):IF·sk>4·THEN·INK·0,1:
     GOTO·80·ELSE·INK·0,sky(sk):GOTO·80
LDMP 140·RESTORE·140:FOR·hr=1·TO·4:READ·hit$(
     hr):NEXT:DATA·"·You·got·lost·in·the·clou
     ds.·","·You·collided·with·an·enemy·plane
     .·","·You·were·shot·down·by·a·missile.·"
     ,"·You·ran·into·a·piece·of·flak.·"
EDHP 150·FOR·explode=1·TO·30:PEN·RND*3:LOCATE
     ·xp,1:PRINT·CHR$(238);:SOUND·3,0,5,15,,,
     RND*10:NEXT:xcen=(40-LEN(hit$(hit)))/2:W
     INDOW#1,xcen+1,40-xcen,10,12:PAPER#1,1:P
     EN#1,2:CLS#1:LOCATE#1,1,2:PRINT#1,hit$(h
     it);
NDKK 160·sc$=CHR$(15)+CHR$(3)+"Score:"+CHR$(1
     5)+CHR$(1)+STR$(sc):PAPER·0:LOCATE·(40-L
     EN(sc$))/2+3,14:PRINT·sc$;:IF·sc>hi·THEN
     ·hi=sc:WINDOW#2,9,33,16,17:PAPER#2,3:PEN
     #2,2:CLS#2:PRINT#2,"····Congratulations!
     ":PRINT#2,"·You·got·a·new·hiscore!"
KBMM 170·LOCATE·12,19:PAPER·3:PEN·1:PRINT"·Pr
     ess·any·key...·":PAPER·0:WHILE·INKEY$<>"
     ":WEND:CALL·&BB18:GOTO·20
      Stop typing.
```



Watch out for that concrete cloud – eek!

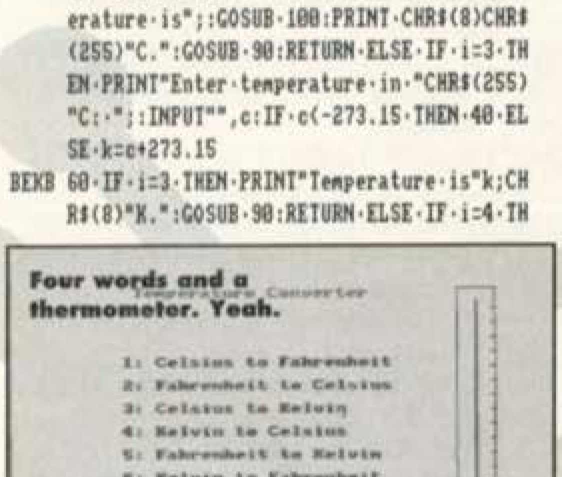
Temperatures

Dave wanted smaller listings, so he's got them. This one's a temperature converter, that's really incredibly simple to use. Just type it in and go:

```
LDBA 10·MODE·1:INK·0,26:BORDER·26:INK·1,0:INK
     ·2,6:INK·3,2:PAPER·0:PEN·2:CLS:LOCATE·38
     ,24:PRINT·CHR$(231);:FOR·y=23·TO·2·STEP-
     1:LOCATE·38,y:PRINT·CHR$(149);:NEXT:PLOT
     ·598,30,2:PLOT·600,30:PLOT·572,0,1:DRAW·
     626,0:DRAW·626,398:DRAW·572,398:SYMBOL·A
     FTER·255
```

```
CEMN 20·DRAW·572,0:FOR·y=30·TO·370·STEP·20:PL
     OT·626,y:DRAW·620,y:NEXT:LOCATE·8,1:PEN·
     2:PRINT"Temperature·Converter":LOCATE·4,
     25:PEN·3:PRINT·CHR$(164)"·Nicholas·Campb
     ell·Nov.·1993":WINDOW·1,35,3,23:PEN·1:SY
     MBOL·255,48,72,48:DATA·Celsius·to·Fahren
     heit
ODFF 30·CLS:RESTORE:FOR·m=1·TO·6:READ·m$:LOCA
     TE·6,m*2+3:PRINT·m;CHR$(8)":·"m$:NEXT:WH
     ILE·INKEY$<>"":WEND:i$="":WHILE·i$<"1"OR
     ·i$>"6":i$=INKEY$:WEND:i=VAL(i$):ON·i·GO
     SUB·40,40,40,40,70,70:GOTO·30:DATA·Fahre
     nheit·to·Celsius,Celsius·to·Kelvin
DEII 40·CLS:IF·i=1·THEN·PRINT"Enter·temperatu
     re·in·"CHR$(255)"C:·";:INPUT"",c:IF·c<-2
     73.15·THEN·40·ELSE·f=c*1.8+32:t=f:PRINT"
     Temperature·is";:GOSUB·100:PRINT·CHR$(8)
     CHR$(255)"F.":GOSUB·90:RETURN·ELSE·IF·i=
     2·THEN·PRINT"Enter·temperature·in·"CHR$(
     255)"F:·";
BEPE 50·IF·i=2·THEN·INPUT"",f:IF·f<-459.67·TH
     EN·40·ELSE·c=(5/9)*(f-32):t=c:PRINT"Temp
     erature·is";:GOSUB·100:PRINT·CHR$(8)CHR$
     (255)"C.":GOSUB·90:RETURN·ELSE·IF·i=3·TH
     EN·PRINT"Enter·temperature·in·"CHR$(255)
     "C:·";:INPUT"",c:IF·c<-273.15·THEN·40·EL
     SE·k=c+273.15
BEKB 60·IF·i=3·THEN·PRINT"Temperature·is"k;CH
     R$(8)"K.":GOSUB·90:RETURN·ELSE·IF·i=4·TH
```

Four words and a thermometer. Yeah.




```
     EN·PRINT"Enter·temperature·in·K:·";:INPU
     T"",k:IF·k<0·THEN·40·ELSE·c=k-273.15:t=c
     :PRINT"Temperature·is";:GOSUB·100:PRINT·
     CHR$(8)CHR$(255)"C.":GOSUB·90:RETURN
PDMK 70·CLS:IF·i=5·THEN·PRINT"Enter·temperatu
     re·in·"CHR$(255)"F:·";:INPUT"",f:IF·f<-4
     59.67·THEN·70·ELSE·k=(5/9)*(f-32)+273.15
     :PRINT"Temperature·is"k;CHR$(8)"K.":GOSU
     B·90:RETURN·ELSE·PRINT"Enter·temperature
     ·in·K:·";:INPUT"",k:IF·k<0·THEN·70
KBFJ 80·f=(k-273.15)*1.8+32:t=f:PRINT"Tempera
     ture·is";:GOSUB·100:PRINT·CHR$(8)CHR$(25
     5)"F.":GOSUB·90:RETURN
PCJD 90·PRINT:PRINT"Press·any·key·to·continue
     .":WHILE·INKEY$<>"":WEND:CALL·&BB18:RETU
     RN:DATA·Kelvin·to·Celsius,Fahrenheit·to·
     Kelvin,Kelvin·to·Fahrenheit
OAIE 100·IF·t<0·THEN·PRINT"·"t;:RETURN·ELSE·P
     RINT·t;:RETURN
```

Indecent proposal

Reckon you could do any better? Then prove it. You don't have to send in several listings at once, either – this month will be the last time we concentrate on one person's work. You don't have to worry about your work not being good enough, either – I'm not going to haul out anybody's crap programs just to embarrass them, so you've got no reasons to worry there.

So, send your stuff to Type-Ins, Amstrad...

RINT·t;:RETURN

Workshop

This month's dissected program is the dinkiest decent word processor you're ever likely to come across...

As my mother would say, "Bloody hell, it's a word processor in only ten lines of BASIC!" Once you've started editing your text (the key presses are all shown on-screen), you might want to stop. If so, type a line that consists solely of the word 'EXIT', in capital letters. Eee by eck – that Campbell lad's done us proud. How does it all work, though?

Line 1

Why do people do this? Huge REM statements waste people's time typing in, so why are they there? That's one line wasted that could have been used for so much other useful stuff.

Line 2

When you're cramming as much into a line as possible, saving characters where you can is always a good thing to do, as there's an upper limit of 255 characters per line. Line 2 is a classic example of a PRINT command with absolutely no punctuation – the command's functions are just all thrown on there in an unfathomable mess, that manages to be a hell of a lot more economic with space, and so is a Good Thing.

Line 3

Well, waddya know? It's that RESTORE command we were talking about last month. Anyone not already familiar with what it does should start buying back issues.

Line 4

The big giveaway (well it was pretty obvious anyway) as to how the text is stored comes with the DIMensioning of a variable to 1000 strings in length. This is a lot of text, so I can't imagine anyone running out of space. Each string can be accessed by using t$(n), where n is any number from 1 to 1000.

Lines 6 & 8

Last month in Basically BASIC, we saw how we could store information in DATA statements elsewhere in the program. Nicholas is using this feature of BASIC to display his info message within the program. One thing that's well worth pointing out is that even though two DATA statements contain halves of the same message, the two are quite happily split up by a lot of program. The READ command wouldn't even notice the gap, though, so this method of using space where it's available is fairly nifty.

Line 7

Even though this is just a reader Type-In, the print option tests whether a printer is ready or not. This is achieved with the line

feature of BASIC to display his info message within the program. One thing that's well worth

```
EDEO 1·'·Word-Pro························by·
     Nicholas·Campbell·1994·················
     ······················Entering·EXIT·wil
     l·return·to·····the·menu·when·entering·t
     ext.····································
     ··I·-·info·on·Word-Pro.
LDJD 2·MODE·1:INK·0,0:BORDER·0:INK·1,26:INK·2
     ,10:INK·3,2:PAPER·0:PEN·3:x$(1)=CHR$(149
     ):x$(2)=CHR$(154):PRINT·CHR$(150)STRING$
     (38,x$(2))CHR$(156)x$(1)TAB(40)x$(1)x$(1
     )TAB(40)x$(1)CHR$(147)STRING$(38,x$(2))C
     HR$(153):PEN·1:LOCATE·17,2:PRINT"Word-Pr
     o":LOCATE·9,3
MDAC 3·PRINT·CHR$(164)"·Nicholas·Campbell·199
     4":PEN·2:LOCATE·1,6:PRINT·CHR$(150)STRIN
     G$(4,x$(2))CHR$(156):FOR·y=7·TO·24:PRINT
     ·x$(1)TAB(6)x$(1):NEXT:PRINT·CHR$(147)ST
     RING$(4,x$(2))CHR$(153):WINDOW#1,2,5,7,2
     4:PAPER#1,0:CLS#1:RESTORE:y=1:WHILE·o$<>
     "..""
MDCO 4·READ·o$:LOCATE#1,1,y:PEN#1,3:PRINT#1,L
     EFT$(o$,1);:PEN#1,1:PRINT#1,RIGHT$(o$,LE
     N(o$)-1):y=y+1:WEND:LOCATE#1,1,2:FOR·u=2
     40·TO·243:PRINT#1,CHR$(u);:NEXT:DIM·t$(1
     000):t=1:z$="ELSPVIQN":WINDOW·8,40,6,25:
     PEN·1:DATA·EDIT,"·","·",LOAD,SAVE,"·",NE
     W,"·",QUIT,"·"
OCEJ 5·i$=UPPER$(INKEY$):IF·i$=""·THEN·5·ELSE
     ·w=INSTR(z$,i$):ON·w+1·GOTO·5,6,9,9,7,10
     ,7:IF·w=7·THEN·MODE·1:CALL·&BC02:PEN·1:E
     ND·ELSE·IF·w=8·THEN·RUN·ELSE·GOTO·5:DATA
     ·PRNT,"·OUT","·",VIEW,"·",INFO,"·."
GEGD 6·w=0:LINE·INPUT"",t$(t):IF·UPPER$(t$(t)
     )="EXIT"·THEN·CLS:PRINT·t$(t-1):GOTO·5·E
     LSE·t=t+1:GOTO·6:DATA·Word-Pro,,A··10-Li
     ner··word··processor··by,Nicholas·Campbe
     ll·-·written··for,Amstrad·Action·and·ACU
     .,,"This·program·is·PD,·but·it··MUST"
AEAL 7·CLS:IF·w=4·THEN·IF·INP(&F500)·AND·64·T
     HEN·PAPER·3:PEN·1:PRINT"·PRINTER·IS·NOT·
     ON·LINE!·":PAPER·0:GOTO·5·ELSE·FOR·p=1·T
     O·t:PRINT#8,t$(p):NEXT:GOTO·5·ELSE·IF·w=
     6·THEN·RESTORE·6:WHILE·h$<>"·":READ·h$:P
     RINT·h$:WEND:PEN·3:PRINT"Press·any·key..
     .":CALL·&BB18
EECE 8·PEN·1:CLS:PRINT·t$(t-1):h$="":GOTO·5:D
     ATA·NOT·be·altered·in·any·way.,,"If·you·
     are··stuck··on··Word-Pro,","then·send·an
     ·SAE·to:",,"24·Ballyminstragh·Rd.,","Kil
     linchy,","Newtownards,","Co.Down,","Nort
     hern·Ireland,","BT23·6RE.","·"
LDDH 9·IF·w=2·THEN·GOSUB·10:OPENIN·f$:INPUT#9
     ,t:FOR·l=1·TO·t:LINE·INPUT#9,t$(l):NEXT:
     CLOSEIN:CLS:PRINT·t$(t-1):GOTO·5·ELSE·IF
     ·w=3·THEN·GOSUB·10:OPENOUT·f$:WRITE#9,t:
     FOR·l=1·TO·t:PRINT#9,t$(l):NEXT:CLOSEOUT
     :CLS:PRINT·t$(t-1):GOTO·5
BEJC 10·IF·w=5·THEN·CLS:FOR·v=1·TO·t-1:PRINT·
     t$(v):CALL·&BB18:NEXT:GOTO·5·ELSE·IF·w=2
     ·OR·w=3·THEN·CLS:PEN·2:PRINT"Filename";:
     PEN·1:INPUT":·",f$:l=LEN(f$):IF·l<1·OR·l
```

·SAE·to:",,"24·Ballyminstragh·Rd.,","Kil
linchy,","Newtownards,","Co.Down,","Nort

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Public Image

Games, demos, utilities... all at unbelievable, rock-bottom prices! Keith Woods checks out the latest Public Domain software.

PD Tips

(not to be confused with the teabags)

Plus owners often find that a surprisingly large percentage of Public Domain software fails to work with their machines. The reason for this is that almost all PD software these days is compressed by Crown's brilliant *Crunch* and *Turbo Imploder*. Unfortunately, *Turbo Imploder* files that run directly from 'ordinary' CPCs need to be loaded in and executed from their start addresses on the Plus, all a rather messy business. But don't panic because Public Image has come to the rescue.

The following little routine, carefully crafted by Crown himself, will allow you to overcome the problem with the minimum of fuss. When prompted by the > sign, type the name of the offending file and you'll be given back three numbers – the file's load address, length and start address respectively. This is all the info you need. Simply type:

```
MEMORY &load address-1 LOAD"filename",&load
address CALL &start address
```

With any sort of luck the program will now strut its funky stuff. Anyway, here's the routine. Type it

WHERE TO GO

I bet you're expecting a load of addresses now, aren't you? Well, sorry, but all you're getting here is a message to re-route to page 22, the Amscene Directory, and look under the heading 'PD Libraries' – you'll find all the addresses you need there. Most PD libraries should stock the stuff reviewed on these pages; if you find one that doesn't, they'll probably know where they can get hold of it.



Looks aren't everything – *Minesweeper* (left) might not look as good as *Demineur* (below) but it's by far the better game.

Demineur vs Minesweeper

***Demineur* by Tom and Jerry of GPA**
***Minesweeper* by Ralf Brostedt**

According to authors Tom and Jerry *Demineur* is based on a little known PC windows game called *Unmine*. It would seem, though, that the game is a little better known than they realise, as there are plenty of PD clones of the game to be found, and *Minesweeper* is one of them.

All of these games feature a grid of grey squares. Randomly hidden beneath some of the squares are bombs, which you have to locate without setting them off. You do this using a combination of logic and luck.

To start with you must pick a square with your cursor and hit the fire button to reveal what lies beneath it. If it's a bomb, your first move is also your last. On the other hand you might uncover a number, but if you're lucky you hit on an empty square, in which case all other adjoining empty or numbered squares will instantly be revealed.

That's the luck you'll need to get you going, then comes the logic. The numbers that appear refer to the number of bombs that lie hidden in the eight surrounding squares. So say you've got a square with the number two, and six of the surrounding squares have already been revealed to be empty or numbers, then you know that the other two squares that haven't been revealed must be concealing bombs. You can then put a little mark on these squares to remind you that they hide bombs.

And so the game continues until you either make a mistake or reveal all the squares that don't hide an explosive surprise. Unfortunately your reliance on luck doesn't stop after the first move because there will be occasions later on in the game when you will be forced to make another stab in the dark and hope for the best. This can be quite frustrating, especially if you've advanced quite a long way into the game.

Of the two version of this game under review here *Demineur* has the greatest polish, with better graphics and a bit of sound (conspicuous by its absence in *Minesweeper*). It also boasts English instructions. However, while *Demineur* undoubtedly looks and sounds better, it is badly lacking in options. The size of the grid is restricted to 16x16 squares, and you can only play with either 32 or 48 bombs. With *Minesweeper*, however, you can choose a grid of any size you want, up to 38x20, and decide on the number of bombs you want to put in it. This gives you near unlimited scope for choosing different levels of difficulty (well not quite unlimited, but you don't really expect me to work out the statistics, do you?).

But let's face facts, these mine games aren't really much fun – there's far too much luck involved, which means you soon get fed up with the darned things. However, if you're partial to the odd logic puzzler and you think you can put up with a little frustration, then, with its far better range of options, *Minesweeper* is definitely the game to go for.

DEMINEUR	MINESWEEPER
53%	65%

Look, I'm sorry, I might be being a bit dim here, but I really haven't got the foggiest idea what a GPA guy is.





GEGS (9, 4) – answers on a postcard please to *Amstrad Action...*

Crossword Compiler

By Keith Mortimer

What would you say are the most popular type of magazines? Computer mags? Women's mags? Or maybe music mags? In fact, it's none of these. The magazines that shift most copies down at your local newsie's are, believe it or not, puzzle magazines. Apparently people just can't get their fill of working out wordsearches and completing crosswords.

Any self-proclaimed crossword connoisseurs who have ever tried their hand at producing crosswords of their own will have found out quickly enough just what a taxing task it is. Completing *The Times* crossword seems a doddle compared to sitting down with a blank piece of paper and trying to come up with a patterned grid (and true crosswords are always symmetrical, remember) full of interconnecting words. You'd be doing well if you could manage a wordy 8x8 grid.

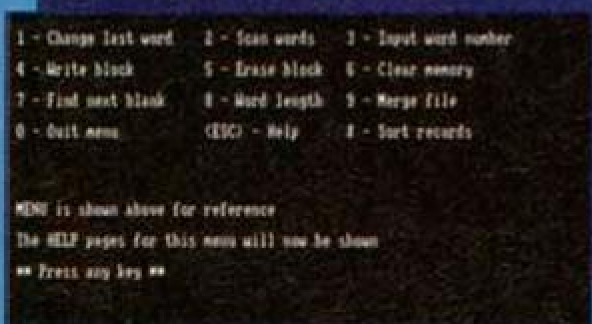
However, with the use of your trusty CPC and Keith Mortimer's excellent *Crossword Compiler* you too can churn out quality crosswords with the minimum of effort. *Crossword Compiler* has every feature you could possibly hope for to help you compile your crosswords. It'll help you to plot your black squares without losing a crossword-like, symmetrical pattern, give you a full list of possible anagrams for any word, print out your crossword and much more besides.

Most importantly though, it'll help you fill those irritating gaps in your crossword by searching speedily through an 8,192 word dictionary for an appropriate word. The usefulness of this facility cannot be overestimated. For example, how long would it take you to think of an eight letter word with O as its second letter, N as its fourth letter and R as its seventh letter? While finding such a word might take us mere mortals half a day, *Crossword Compiler* suggests BOUNDARY and ROUNDERS in less than three seconds (a feature which is dead useful for solving crosswords as well as compiling them).

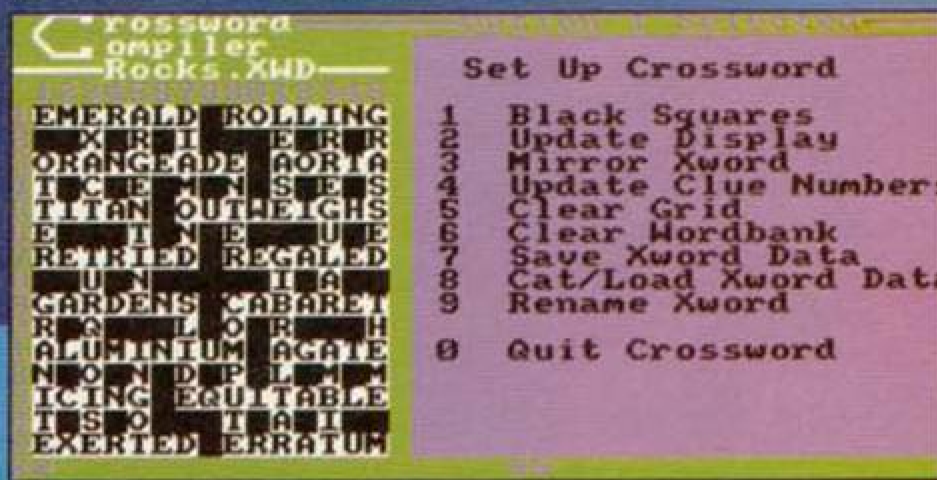
Crossword Compiler must be the one of the best utilities in the Public Domain. It's so user-friendly it's an absolute joy to use. Needless to say extensive instructions are provided, but it's unlikely you'll need them because the program is so intuitive to use. Unfortunately, the mammoth dictionary needs 128k, so 64k owners have to do without the best of the many excellent features.

It really is impossible to imagine a better crossword compiler for the CPC. The only one drawback I can see with owning this program is that you'll end up wasting all your time producing crosswords you don't need!

95%



Absolutely everything the serious crossword compiler could ever need.



Once you've created your crossword you can, er, well...

in and save it to disc so you can use it any time you have the problem.

```
10·SPEED·KEY·8,1:ON·ERROR·GOTO·40
20·PRINT"PRINTER·?·";:a$="":WHILE·a$<>"N"
AND·a$<>"Y":a$=UPPER$(INKEY$):WEND:PRINT·
a$:IF·a$="Y"THEN·p=8·
30·INPUT">·",a$:a$=a$:OPENIN·a$:CLOSEIN·
40·IF·p=8·THEN·PRINTR#Rp:PRINTR#Rp,">·"a$
50·FOR·a=&A756·TO·&A75D:PRINTR#Rp,CHR$(MA
X(32,PEEK(a)));:NEXT:PRINTR#Rp,".";·
60·FOR·a=&A75E·TO·&A760:PRINTR#Rp,CHR$(MA
X(32,PEEK(a)));:NEXT·
70·PRINTR#Rp,"·"HEX$(PEEK(&A76A)+256*PEEK
(&A76B),4);·
80·PRINTR#Rp,"·"HEX$(PEEK(&A76D)+256*PEEK
(&A76E),4);·
90·PRINTR#Rp,"·"HEX$(PEEK(&A76F)+256*PEEK
(&A770),4)·100·CLEAR
```

In *Minesweeper* you can set the size of the grid on which you want to play.

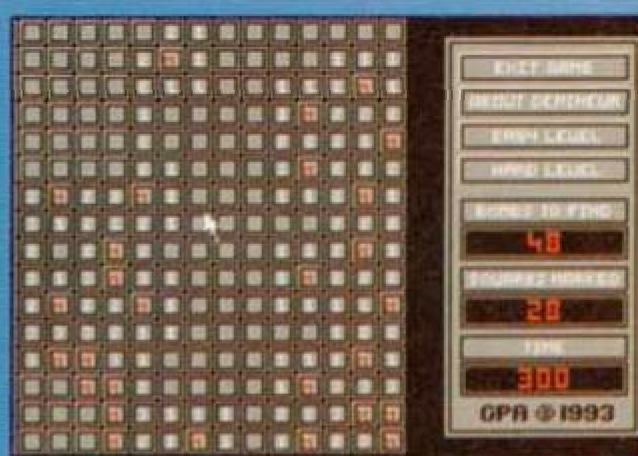


Other stuff

Other than compressed programs, there is little other Plus-incompatible software in the Public Domain. However, Xyphoe's Fantasy's loader does throw up the irritating, 'Press play then any key' message (great when you've got a machine without a built-in tape interface).

To get around this irritation all you need to do is run the program directly from another file (which is usually hidden, you know how it is with these things). Simply type RUN"BANK4.BIN" and you'll be massacring beautifully-animated wildlife in no time.

Another offender is Made's Rebels slideshow. Since Made is undoubtedly the CPC's best graphic artist you'd be loath to miss this overscanned viewing feast simply because the menu features the familiar problem of a Plus-incompatible keyscan. You'll be happy to know that all the screens can be found hidden away in user 24, which can be accessed by typing:



Just send a few sheep across the grid, I say.

```
POKE·&A701,24
```

Now catalogue the disc and you'll see all the pictures filenames. To load any of them type:

```
LOAD·"filename",&A000:CALL·&A000
```

Here ends the Public Image Public Service announcement.



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AA76: Covertape: *Graphic Adventure Creator, PageMaker Plus, Southern Belle, Extended BASIC* for 464 owners. Inside: Peripherals part 2, *Dizzy's Excellent Adventures, The Simpsons, Super Space Invaders, OutRun Europa, Cisco Heat, Pitfighter.*
AA77: Covertape: *Seymour Take One* (mini game), *Firelord, Football Forecaster*, Fonts. Inside: The French Connection, GAC tutorial. Reviews: *You're Learning* (educational pack), *Paperboy 2.*
AA78: Covertape: *Space Crusade* (demo), *The Sphinx Jinx, Shockway Rider*. Inside: Guide to PD. Reviews: *Space Crusade, Double Dragon 3.*
AA79: Covertape: *Ranarama, Maze Mania, Meaning Business* (suite of business utilities). Inside: Behind the scenes at AA. Reviews: *Blues Brothers, Rodland, Prehistorik.*
AA80: Covertape: *Stryker and the Crypts of Trogan* (demo), *Anarchy, Croco Magneto, GPaint*. Inside: How a game is made (Seymour), buyers' guide to word processors. Reviews: *Titus The Fox, Stryker.*
AA81: Covertape: *Forbidden Planet, The Addams Family* (demo), Sprite Designer. Inside: Fanzines, buyers' guide to DTP.
AA82: Covertape: *Lemmings* (demo), *Dragontorc, PowerPage*. Inside: Making dosh from programming, guide to art packages. Reviews: *Lemmings, Addams Family.*
AA83: Covertape: *Defenders of the Earth* (demo), *Drehdriss, Supersonic* (music). Inside: The French CPC scene, buyers' guide to educational software. Reviews: *Turbo the Tortoise, Grell and Fella.*
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AA87: Covertape: *Nexor, Pakman, MPack, Pilot* (very simple programming language). Inside: Dizzy, this is your life. Reviews: *Football Manager 3, Super Seymour.*
AA88: Covertape: *Tankbusters, Penguins, JL-Copy* (tape to disk utility). Inside: *Videomaster*, top CPC add-ons. Reviews: *The Shoe People, Crystal Kingdom Dizzy, Robin Hood.*
AA89: Covertape: *Wriggler, MagicDOS, Superchars*. Inside: The European demo scene. Reviews: *Zap'tBalls, Crazy Cars 3* and a whole lot more (as they say).
AA90: Covertape: *Steve Davis Snooker, LARA* (Machine Code Utility). Inside: 100s of Multiface POKEs. Reviews: *Nigel Mansell's World Championship, Popeye Collection.*
AA92: Covertape: *BooTracker* (music program), *Syntax, Balloon Buster*. Inside: Complete guide to data storage. Reviews: *Soundtrakker, The Simpsons.*
AA93: Covertape: *Racing Boxform, Mystical, Who's Afraid Of The Balrog?* Inside: Spreadsheets and databases, setting up a PD library, *Super Cauldron.*
AA94: Covertape: *Instant Recall* (database), *Contraption*. Inside: The best of everything – the AA awards ceremony. Reviews: *MicroDesign 2, Disc Archiver, Prehistorik 2.*
AA95: Covertape: *MasterCalc* (spreadsheet), *Biff*. Inside: *Street Fighter 2* – the myth starts here. Reviews: *Pro-Ext, SmArt Plus, Trakers.*
AA96: Covertape: *Screen Designer* (art package), *Neil Android*. Inside: ROM round-up, Campursoft interview. Reviews: *ZXM, Xexor*, Cart round-up.
AA97: Covertape: *Rik The Roadie* (okay, okay), *Zzap Assembler*. Inside: The best software you can get for under a fiver, debugging. Reviews: *Ultimate Sprite Searcher, Forth, Galactic Warfare, Ball Bearing.*
AA98: Covertape: *The Blues Brothers* – complete five-level game. Inside: 50 tips to make your computing life easier, Sentinel interview, Encyclopaedia Part 1. Reviews: *Disc Imager, Zack Game Creator.*
AA99: Covertape: *Stormlord, Font Editor*, Grab Converter. Inside: DTP round-up. Reviews: Homebrew software, *ProPrint ROM, Stellar Outpost*, fanzines.
AA100: Covertape: *Elite*. Inside: The Top 100 CPC products ever, a look back at the first 100 issues of AA. Reviews: *Touchdown, Page Publisher.*
AA101: Covertape: *Exolon, Home Accounts*. Inside: The complete guide to animation on the CPC, interview with Radical Software, *Elite* Masterclass.
AA102: Covertape: *Cybernoid 2, Graph Master, D•I•Y•F•X*. Inside: make some noise – your CPC's sonic capabilities, The CPC world. Reviewed: *DES* – Desktop Environment System.
AA103: Covertape: *Nebulus*, Speech. Inside: copying devices, *Fluff* preview, Elmsoft interview, shoot-'em-ups round-up, low-cost printer reviews.
AA104: Covertape: *AA Toolkit, Uridium*. Inside: *Fluff* review, the PD scene exposed, sports sim round-up, *Basic Idea, Home Teacher* and all the othet usual stuff.
AA105: Covertape: *Deliverance, Bomber, Basic Utilities*. Inside: A complete guide to getting your CPC to communicate with other computers, *Megablasters* preview.





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The Examiner

He turned. The hideous sight he saw was indescribable*. He fell in terror and his last ever thought was, "I wish I'd read Debby Howard's adventure column."

Letters

● I am having a lot of trouble in the adventure *Starwreck*. Could you please tell me where the lift is? Also in *Wizbiz*, I've been told to fish at the river, which is all very well, but I just can't find a river.
John Armour, Liverpool.

The lifts (or elevators as they're called in this adventure), are west, west, west, south, west from the start point which is the Captain's Cabin. The command for using the lifts is UP or DOWN depending on where you want to go. In *Wiz Biz* you need to VAULT OVER WALL south of where you find the PROP then just go east, north and FISH. **Debby**

● How do I pick up the key from across the Vast Chasm in *Vampire*?
Dennis Tilt, Herts.

Well, you've got me on that one, because I've never actually played *Vampire*. Perhaps somebody else might know the answer to that question and write in. **Debby**

● Where can I get *Bored Of The Rings*?
Jeremy Goldsmith, West Sussex.

I've had quite a few letters asking me where certain old adventures can be bought. Unfortunately you won't be able to purchase them new any more because most of the software houses that sold them have stopped distributing them on the 8-bit market! But you can buy them second hand. Try placing an advert in the small ads section of *AA*. **Debby**

Lords & Ladies of Adventure

If you are stuck in a game listed below, these kind souls are willing to help you. Please remember to enclose an SAE with your enquiry and DON'T ask for a full solution, as you might be disappointed. If you want to become a Lord or Lady please write in with your full list.

● Adult II, Adventure Quest, Adventures Of Zebedee Gonig, Aftershock, Agatha's Folly, Alien Planet, Al-Strad, Amstrad Action Adventure, Angelicus Answer, Angelicus Saga, Angelique, Antidote, Apache Gold, Arena, Arnold Goes Somewhere Else, Astral Plain, Atalan, Aunt Velma's Coming To Tea, Axe Of Kolt, Ballyhoo, Base, Behind The Lines, Bestiary, Big Sleaze, Big Top, Black Fountain, Black Knight, Blue Raider, Boggit, Book Of The Dead, Border Harrier, Boredom, Bounty Hunter, Brawn Free, Bugsy, Burlough Castle, Cacodemon, Can I Cheat Death? Captain Kook, Case Of The Beheaded Smuggler, Case Of The Mixed-Up Shymer, Castle Adventure, Castle Warlock, Cave Capers, Cave Of Darkness, Caves Of Bew Bews, Caves, City For Ransom, City Of Shadows, Colossal Adventure, Colour Of Magic, Corya Warrior-Sage: Dragon, Conch, Countdown To Doom, Crash Landing, Crispen Crunchy, Crown Jewels, Crystal Theft, Cursed Be The City, Dance Of The Vampires, Dances With Bunny Rabbits, Danger Adventurer At Work, Danger Adventurer At Work 2, Dark Manor, Darkest Road, Dark Sky Over Paradise, Dave Dangerous, Davy Jones Locker, Dead End, Deadenders, Desmond Of Gertrude, Detective, Dick-Ed, Die You Vicious Fish, Doomlords, Dragon Slayer, Drake, Druids Moon, Dungeon, Dungeon Adventure, Dungeons Dragons Amythysts, Dungeon Of Hell, Elsinore Diamond, Escape, Escape From Alien Spaceship, Escape From Koshima, Escape From The Planet Of Doom, Experience, Fantasia Diamond, Fantastic Adventure, Federation, Firestone, First Past The Post, Flight From Danger, Flook, Forest At Worlds End, Four Symbols, Foxy, Fugitive, Galaxias, Gerbil Riot Of '67, Get Me To The Church, Ghost House, Gladiator, Grange Hill, Grue Knapped, Guardian, Guild Of Thieves, Hades, Haunted House (Incentive), Haunted House (PD), Hermitage, Heroes Of Karn, Hero Select, Hobble Hunter, Holiday, Holiday II, Homicide Hotel, House Out Of Town, Hunchback, Ice Wizard, Ichor, Imagination, Inca Curse, Inner Lakes, Into The Mystic, Island, Island Of Chaos, Jade Stone, Jason And The Argonauts, Jewels Of Babylon, Jolly Poppa Down, Journey To Death, Ket To Paradox, Kidnapped, Kingdom Of Hamil, Kingdom Of Zaar, Knight Orc, Labyrinth, Larry The Lemmings Urge For Extinction, Last Believer, Last Snowman, Leather Goddess Of Phobos, Lighthouse Mystery, Lord Of The Rings, Lords Of Magic, Lost Shadow, Magicians Apprentice, Magnetic Moon, Mell, Merlin, Message From Andromeda, Miami Mice, Microfair Madness, Microman Project X, Minette, Miser, Moonbase II, Moonmist, Mordon's Quest, Morgan's Seal, Mountains Of Ket, Mural, Necris Dome, Nite Time, Nova, Nythyhel, Orb Quest, Panic Beneath The Sea, Pawn, Public Domain Library Blues, Pendant Of Logryn, Planet Of Death, Pride Of Tewksbury, Prison Blues, Prophecy, Quad-X, Quad-X 2, Quest For The Golden Eggcup, Quest For The Holy Snail, Race, Ransom, Raymond Pringle's Quest For The Fabled Picked Cabbage, Rebel Planet, Rescue, Return To Eden, Revenge Of Chaos, Revenge, Rigel's Revenge, Ring, Rings Of Artek, River, Robin Of Sherwood, Roog, Rouge Midget, Save Your Sister, Seabase Delta, Search For The Largo Grann, Search For Mithrillium, Seas Of Blood, Seastalker, Secrets Of Ur, Shard Of Inovar, Sharpes Deeds, Ship Of Doom, Simply Magic, Simsoft Adventure, Smashed, Snowball, Snow Joke, Souls Of Darkon, Space Station, Spaced Out, Spectre Of Castle Coris, Spiro Legacy, Spy-Trek, Staff Of Power, Starship Quest, Storm Mountain, Stripy, Strypticke, Subsunk, Supastore, Swamp Thing, Talisman Of Lost Souls, Teacher Trouble, Tealand, Test, Theseus And The Minotaur, Thieves Tale, Time, Time Traveller, Tizpan Lord Of The Jungle, Top Secret, Total Reality Delusion, Toxic, Travel, Traveller, Treasure Island, Treasure Tunnels, Trial Of Arnold Blackwood, Ultimate Nightmare, Underground Adventure, Unknown Planet, Use Your Loaf, Venom, Videoworld, Warlord, Well, Welladay, Werewolf Simulator, Weirdstone, Winter Wonderland, Wise And Fool Of Arnold Blackwood, Worm In Paradise – Philip Reynolds, 36 Grasemere Road, Royton, Oldham, OL2 6SR (he's just showing off – Dave).

Cluepot

Key To Paradox

Objects and Uses...

Angel	Get her name and remember it.
Book Of Calls	It needs the codeword from idol.
Box	Open it to get pill.
Cage	Needed to catch the butterfly.
Candle	Mix with ice for wax.
Crowbar	Where the Dickens did you find this?
Dark Angel	Needs the heart.
Dig (1)	Outside Sandcastle for fish.
Dig (2)	At Pillbox to obtain seeds.
Dig (3)	West of Serpent to get casket.
Eye	Replace it in idol.
Fish	Feed it to mouse.
Flowers	Give them to wolf.
Frog	Are you playing *Heroes of Karn* or what?
Fruit	No obvious usage.
Hat	Transports you through paradox from chasm.
Heart	Give it to the dark angel.
Ice	Mix candle with it for wax.
Idol	Will give codeword for book.
Iron Y	The key to Paradox at the end.
Key	Replace it in idol.
Knife	To cut the wolf.
Lawgiver	Speak to him.
Master	Speak to him then answer his riddle.
Mouse (1)	Drop in front of the cat at tower.
Mouse (2)	Move around a mat for icons etc.
Organ	Play to attract the angel.
Parchment	Bears the word of power.
Pill	Makes you smaller for entering sandcastle.
Sandcastle	Build it at hat location.
Satchel	At start, needed to carry objects.
Seeds	Turn into flowers by magic.
Serpent	Carry butterfly to lull it.
Snake	Was on holiday when this game was written.
Spell	Read it from book of calls.
Staff	Plant it on mountain for tree
Tree	Climb it to cross fissure.
Wax	Put in ears to dull sounds.

Where to go

If you're looking for new and re-released adventures, then drop these people a line (enclosing a SAE) for their latest stock list.

● WoW Software, 78 Radipole Lane, Weymouth, Dorset. DT4 9RS.

● Amstrad Adventure Solution Service, 10 Overton Road, Abbey Wood, London, SE2 9SD. (This is a solution/map service they do not sell adventures).

● Adventure Workshop, 36 Grasemere Road, Royton, Oldham, Lancashire, OL2 6SR.

* Well, it saves space on having to describe the darned thing.

Cheat Mode

Who says cheats never win? They do if they read Lee Rouane's round-ups of games tips, pokes and solutions every month in *AA*.

GROUND ZERO

Penned by Lee (I like that name) Cleary of Rotherham, this solution should rekindle all those midnight playing sessions. Then again ...

1 Go LEFT and get the deposit box key from the cafe.
2 Exit the cafe and go RIGHT and get the green key.
3 Go RIGHT into the first house. Get the bank book.
4 Exit the house and go RIGHT until you see a gap in the fence.
5 Go UP through the gap then go LEFT into the bank.
6 Pick up the deposit box and use the deposit box key to open it and get the coded message.
7 Drop the bank book and the deposit box and go back to the gap in the fence and press UP.
8 Go RIGHT and then use the green key in the green padlock (it's a bit like *The Crystal Maze*).
9 Go inside the room, then drop the green key and get the pliers.
10 Exit room. Go RIGHT to the ladder, dropping the coded message and the pliers. Climb the ladder.
11 Go LEFT at the top of the ladder until you see an object.
12 Pick up the object (broken decoder). Go RIGHT.
13 Go past the first ladder until you find a second (pink) ladder and go down.
14 Get the battery and go up the ladder, walk to the first ladder and go down
15 Get the torch and use the battery.
16 Keep the torch and then go back and collect the coded message and the pliers.
17 Go right to the factory door, press up and go to the research department door.
18 Press up then use the torch, walk left until you find some numbers.
19 Exit the number room, drop the coded message and get the screwdriver.
20 Use the pliers on the broken decoder and it will work again.
21 Drop the pliers and the screwdriver, pick up the coded message and use the decoding machine
22 Read the message – it should give you some numbers. Drop it and go to the numbers room.
23 Put the numbers from the message on to the dials and go to the arrow.
24 Push up and the message 'correct password entered' should come up.
25 Get the screwdriver and the pliers and go back to the battery.
26 Walk into the bomb; the door should disappear.
27 Now walk into the bomb to complete the game.

URIDIUM

Uridium is a little known compound formed from 12 different radioactive materials. But don't worry about the half-life, because now you got infinite lives.

```
LAMO 100·'Uridium·(Tape·38)·Cheat·&·Transfer
GACD 110·'Infinite·Lives
JAPH 120·'Disc·Cheat·Only·To·Be·Used
MABL 130·'Once·The·Game·Has·Been·Transferred
FAAD 140·'Lee·Rouane·'94
AANN 150·'
IABL 160·DATA·11,40,00,21,FF,AB,0E,07,CD,CE,BC
IABI 170·DATA·21,65,BF,11,00,C0,06,0A,CD,24,BF
IAEJ 180·DATA·21,6F,BF,11,08,3D,06,06,CD,24,BF
JADA 190·DATA·C3,5D,BF,D5,CD,77,BC,E1,CD,83,BC
IAFJ 200·DATA·CD,7A,BC,C9,21,65,BF,11,00,C0,06
IAFK 210·DATA·0A,CD,4C,BF,21,6F,BF,11,08,3D,01
IACN 220·DATA·F8,67,06,06,CD,4C,BF,C3,5D,BF,3E
JACB 230·DATA·FF,CD,6B,BC,D5,CD,77,BC,E1,CD,83
IAPM 240·DATA·BC,CD,7A,BC,C9,3E,00,32,C2,5E,C3
IAID 250·DATA·00,40,53,43,52,45,45,4E,2E,42,49
IAHH 260·DATA·4E,4D,43,2E,42,49,4E,1D,00,F7,00
```

HELP!

Help!
I am stuck on the volcano and the trolls bridge in *Magicland Dizzy*.
Byron Atkinson, Eastfield, Scarborough.

To get past the troll, make sure you have the dagger, and then get the stick out of the trees. Go to the troll and you'll see a goat. Cut the rope that holds the goat and hit it with the stick. The enraged goat will get rid of the troll for you. Before you can get across the volcano you will have to have cured all of the characters. Once you have done this, clouds will appear over the volcano. Jump on the cloud in the dead centre of the screen, then walk right a tad and jump off on to the other side.



Look no hands – just boxing gloves.

Help! I am stuck on *Spellbound Dizzy* on the 464 and the cheat you gave for it doesn't work so can I please have the complete solution? I've got as far as rescuing everybody but Theo and Dora as I can't find Dora at all.
Lee Cleary, Maltby, Rotherham.

Here goes. Dora is in the Spooky Cave and to free her you will need the jar to catch the firefly. Then, with the aqualung, the glowing jar and the tasty seaweed find and enter the Spooky Cave. Drop the seaweed to get rid of the bats, use the firefly and the glowing jar together to light the cave. You will now be able to get the glass slipper from Dora. Give this slipper and five gold stars to Theo to free her. On to Theo now. Theo's job in the game is purely to help you. You need to give Theo one item from each character and five stars and then Theo will rescue them. Theo himself, however, cannot be rescued.



Dizzy – still causing problems even after all these years.

Help! My son has asked me to write on his behalf as he is having trouble with the following games:
● *Treasure Island Dizzy* – He cannot get past the fish in the tunnel. Could you please give him a hint or multiface poke?
● *Fantasy World Dizzy* – He cannot get past the rhino. Could you tell him how or give him a Multiface poke.
● *Ruff & Ready* – Can you please supply a multiface poke?
● *Batty* – Could you please give him a Multiface poke for Infinite Lives on the Vol 2 *Hit Pak Disc*.
Anne Osbourne, Lenham Heath, Kent.

● *Treasure Island Dizzy* – You are actually going the wrong way here. The crab is impassable so you will need to find your way to the magic wall of water. Once there simply walk through the waterfall (wearing the snorkel) to get the dynamite.

● *Fantasy World Dizzy* – Find and enter the attic where you should find a fleshy bone. Pick up the bone, and go back down to the rhino. Then, next to the rhino there should be a small ledge with a rock underneath. Run as quickly as possible under the ledge, and pick up the rock whilst at the same time dropping the bone. Now run as quickly as possible away from the rhino. The rhino should then eat the bone leaving you free to pass.

● *Ruff & Ready* – This poke will work on the tape version of the game.

5301,00	**Infinite Time**

● *Batty* – These pokes should work on the disc version, but if you still have problems send the offending disc and return postage to the usual Bath Cheat Mode address.

4515,00	Infinite Lives Player 1
4523,00	Infinite Lives Player 2

● If you have a specific game query, write to Help! Cheat Mode, *Amstrad Action*, Future Publishing, 30 Monmouth Street, Bath, Avon BA1 2BW

Are you befuddled by listings?

Don't panic if you're new to listings. There's a full explanation of how to type in the darned things and what the four-letter codes at the beginning of each line mean in the Type-Ins section which starts on page 28.

```
CAEN 270·DATA·LCR
EAKF 280·chk=0:x=ABF00
JAME 290·READ·a$:IF·a$="LCR"·THEN·320·ELSE·300
GAMC 300·a=VAL("&"+a$):POKE·x,a
HAKN 310·x=x+1:chk=chk+a:GOTO·290
HAKH 320·IF·chk()&34B6·THEN·GOTO·720
IAGK 330·MODE·1:BORDER·0:CLS:RESTORE·350
JAMC 340·FOR·i=0·TO·3:READ·a:INK·i,a:NEXT
DAGN 350·DATA·0,20,26,24
KAKN 360·PRINT·"1·-·Transfer·To·Disc":PRINT
MAMH 370·PRINT·"2·-·Cheat·On·Disc·Version":PR
     INT
MAFI 380·PRINT·"3·-·Cheat·On·Tape·Version":PR
     INT
KAEM 390·a=0:WHILE·a=0:a$=INKEY$:a=VAL(a$):WEND
FAEL 400·ON·a·GOSUB·410,620,670
IABN 410·'Tape·Transfer·Routine
FAPN 420·CLS:LOCATE·8,10:PEN·3
LALH 430·PRINT·"Insert·Disc·With·44k·Space"
LAEB 440·LOCATE·13,12:PRINT·"Then·Press·A·Key"
FAOI 450·CALL·&BB18:CALL·&BC14
CAAG 460·|TAPE
GAMC 470·LOAD"!SCREEN.BIN",&C000
CALF 480·|DISC
HAJH 490·SAVE"screen",b,&C000,&4000
DACL 500·MEMORY·&3D07
CAMF 510·|TAPE
FADL 520·RESTORE·570:x=&BE00·
FAPJ 530·READ·a$:a=VAL("&"+a$)
EAAN 540·POKE·x,a:x=x+1
FAHA 550·LOAD"!MC.BIN",&3D08
DAEA 560·CALL·&BE00
IAGL 570·DATA·11,40,00,21,FF,AB,0E,07,CD,CE,BC
IAPI 580·DATA·06,06,21,24,BE,CD,8C,BC,3E,02,21
IANO 590·DATA·08,3D,11,FB,67,CD,98,BC,CD,8F,BC
IAEE 600·DATA·C3,00,40,4D,43,2E,42,49,4E,00,00
IAEF 610·'**·Disc·Cheat·Routine·**
FAPN 620·CLS:LOCATE·7,10:PEN·2
LAMM 630·PRINT·"Insert·Disc·And·Press·A·Key"
FAPI 640·CALL·&BB18:CALL·&BC14
DAFA 650·CALL·&BF00
IAAG 660·'**·Tape·Cheat·Routine·**
FAFO 670·CLS:LOCATE·7,10:PEN·3
LAIN 680·PRINT·"Insert·Tape·And·Press·A·Key"
FAEJ 690·CALL·&BB18:CALL·&BC14
CANF 700·|TAPE
DAFA 710·CALL·&BF30
LAOB 720·PRINT·"Data·Error·Old·Bean·...":END··
```

Multiface Poke

1FC2,00	Infinite Lives

CURSE OF SHERWOOD

Michelle Tomlu (I think – write more clearly, woman) of Andover, resorts to blackmail. She says that if we give her this cheat she will supply us with a load of tips. What do you think folks? Here go on then take it!

```
IAPO 10·'Curse·Of·Sherwood·Cheat
GACA 20·'Infinite·Lives
IAFP 30·'Permanent·Use·Of·The·Map
GACP 40·'By·Stephen·Stokes
AAMK 50·'
CACD 60·a=&BF00
CANF 70·READ·v$
GAFD 80·IF·v$="*"·THEN·CALL·&BF00
EAIM 90·POKE·a,VAL("&"+v$)
EAGA 100·a=a+1:GOTO·70
EAHL 110·DATA·06,00,11,00,c0
FANI 120·DATA·cd,77,bc,21,c0
FAAP 130·DATA·0d,cd,83,bc,cd
FAPI 140·DATA·7a,bc,21,7b,a6
FAFL 150·DATA·11,df,ab,01,bc
FANG 160·DATA·98,ed,b8,3e,00
FAPC 170·DATA·32,ac,66,3e,00
FAHD 180·DATA·32,6f,75,c3,0a
DAMA 190·DATA·aa,*
```

Multiface Pokes

66AC,00	Infinite lives
756F,00	Permanent use of map

HONG KONG PHOOEY



Once again the terrible duo from Lowedges, Sheffield bounce back like yesterdays vindaloo with a much needed cheat for *Hong Kong Phooey*. They supply our budding Steven Seagel with Infinite Energy to help him on his way. Aaaaahhh-sooo!

```
IAOD 100·'Hong·Kong·Phooey·Hack
GAOK 110·'Invunerability
IAOH 120·'Tony·&·Donna·Parker·03/94
LAOP 130·'Three·Cheers·For·Amstrad·Action
JALH 140·'And·To·All·That·Sail·In·Her
AANN 150·'
IALJ 160·DATA·3E,01,CD,0E,BC,01,00,00,CD,38,BC
IAOE 170·DATA·3E,00,01,00,00,CD,32,BC,3E,01,01
IAOI 180·DATA·06,06,CD,32,BC,3E,02,01,1A,1A,CD
IAPG 190·DATA·32,BC,3E,03,01,00,18,CD,32,BC,21
JAKC 200·DATA·E9,BE,CD,DF,BE,21,60,BF,CD,DF,BE
JACB 210·DATA·21,78,BF,CD,DF,BE,21,9F,BF,CD,DF
IAEO 220·DATA·BE,CD,18,BB,CD,14,BC,21,AC,BE,22
IAOF 230·DATA·6C,90,C3,00,90,3E,3C,32,23,15,3E
IAPF 240·DATA·00,32,25,15,C3,50,80,7E,FE,00,C8
IAEI 250·DATA·CD,5A,BB,23,18,F6,1F,01,01,0F,01
IADP 260·DATA·5F,5F,5F,5F,5F,5F,5F,5F,5F,5F,5F
IAEP 270·DATA·5F,5F,5F,5F,5F,5F,5F,5F,5F,5F,5F
IAFP 280·DATA·5F,5F,5F,5F,5F,5F,5F,5F,5F,5F,5F
IAHK 290·DATA·5F,5F,5F,5F,5F,5F,1F,01,18,0F,01
IAOO 300·DATA·5F,5F,5F,5F,5F,5F,5F,5F,5F,5F,5F
IAPO 310·DATA·5F,5F,5F,5F,5F,5F,5F,5F,5F,5F,5F
IAAP 320·DATA·5F,5F,5F,5F,5F,5F,5F,5F,5F,5F,5F
IAIK 330·DATA·5F,5F,5F,5F,5F,5F,1F,09,06,0F,02
IAMH 340·DATA·48,6F,6E,67,20,4B,6F,6E,67,20,50
IAPF 350·DATA·68,6F,6F,65,79,20,43,68,65,61,74
IAMH 360·DATA·0D,0A,0A,00,1F,0D,0A,0F,01,49,6E
IABG 370·DATA·66,69,6E,69,74,65,20,45,6E,65,72
IAKG 380·DATA·67,79,0D,0A,0A,00,1F,06,0E,0F,02
IAIE 390·DATA·57,72,69,74,74,65,6E,20,42,79,20
IAMH 400·DATA·54,6F,6E,79,20,26,20,44,6F,6E,6E
IAHE 410·DATA·61,20,50,61,72,6B,65,72,0D,0A,0A
IAHE 420·DATA·00,1F,0B,12,0F,03,50,6C,65,61,73
IAFD 430·DATA·65,20,50,72,65,73,73,20,41,6E,79
IAIE 440·DATA·20,4B,65,79,07,00,TP,00,00,00,00
HADM 450·chk=0:x=ABE00:MEMORY·A8FFF
JAOB 460·READ·a$:IF·a$="TP"·THEN·490·ELSE·470
GAFD 470·a=VAL("&"+a$):POKE·x,a
HABO 480·x=x+1:chk=chk+a:GOTO·460
HADI 490·IF·chk()&691B·THEN·GOTO·520
DAFH 500·LOAD·"!",&9000
DAHA 510·CALL·ABE00
LAOD 520·PRINT·"Oh·Dear·!,·Typing·Error":END
```

STREAKER

In return for the *Curse of Sherwood* cheat Michelle rewards us with a mixed bag of goodies, most of which you will have to wait until next month for, but meanwhile make do with these tips for *Streaker*.

- If you keep running low on energy make sure you have a beam pad in a shop where you need at least one item of clothing on.
- Remove all of your clothes (what all three vests?) and beam transfer into the room. The message on the screen will tell you that the energy plurges (?) into your body.
- This SOMETIMES works with shops that are closed. If you are stuck at the point in the game where you have found the vest, pants and slacks, the shirt is found in the top-right room of the hotel. First, though, you will have to use the red key found in the supermarket after you got the slacks.
- To get into the shops that are closed, place beam pads in each shop that you want to enter, but first you will need a special object. Take this object and beam transfer into the shop.
- If you are lucky you might find a new object. New objects you find visiting the shops after hours bring other new objects into the game, eg, if you pick up the sword in the cafe, a pair of slacks appear in the pub; if you pick up the picture in the laboratory, a jumper will appear in the casino, etc.
- Some of the special objects and their whereabouts:

Object	Found
Tow Rope	Chemist
Pile Of Coins	Butchers
Iron	Cafe
Revolver	Sports Field Changing Room
Cuckoo Clock	Pub
Wallet	Travel Centre
Duck Egg	Sauna
Sheet Of Music	Changing Room

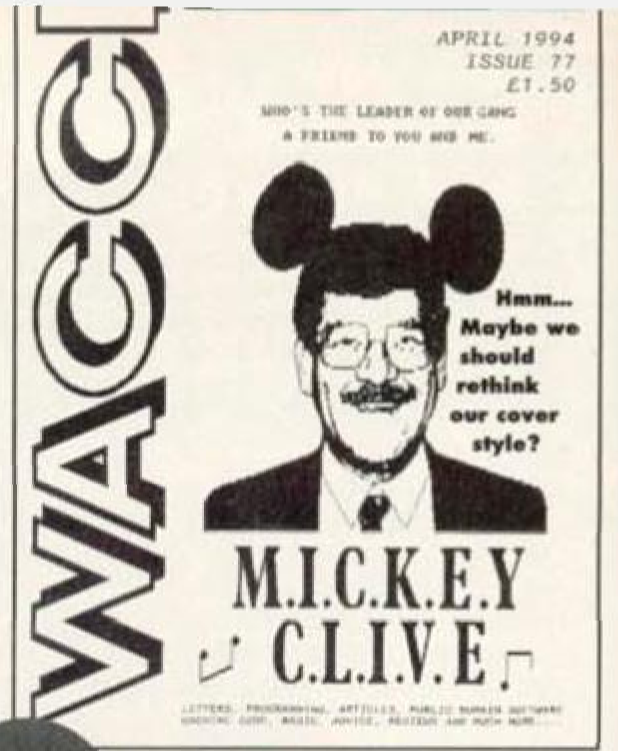
The Manic multipoke mania zone

Creating the Multiface mayhem this month are Fraser Clark from Australia and Graham Smith from Street. The initials after the game name tells who supplied what. Take it away folks!

Game	Format	Poke, address	Effect
Dizzy Yolk Folk (GS)	Tape	1860,00]	Infinite Lives
		1861,C3]	
Panic Dizzy (GS)	T	6603,00	No punishment for mistakes
Chevy Chase (GS)	T	24DD,00]	
		24DE,C6]	Slows timer to half speed
		24DF,40]	
Chart Attack Compilation			
Ghouls & Ghosts (FC)	D	3148,3E]	
		3149,00]	Infinite Lives
		314B,3C]	

Further reading

It's the fanzine review page which dared not to be called 'zine scene'. Dave Crookes checks out the latest CPC literature fresh off the photocopier...



But first, the headlines...

- First came the UAUG convention which brought together a whole group of its members in Surrey. Now comes the news that the other main CPC user group, WACCI, is planning a similar convention in either Manchester, Birmingham or Sheffield. Watch this space (but not for too long or else folk'll think you're pretty weird).
- *Another World* (35 Marlborough View, Cove, Farnborough, Hants. GU14 9YA) is the latest in a growing line of disc magazines. Each issue of Richard Avery's 'zine will contain a few tutorials and reviews as well as a few bits of software (*Zap 'T' Balls* was included in issue one). It costs the reasonable sum of £1.50 and you must send an SAE and disc.
- *CPC Undercover* (37 Trimingham Drive, Bury, Lancashire. BL8 1JW) is on the lookout for writers so if you can help get in contact. It sells for only 80p plus a disc and a SAE for those who are interested.

WACCI

Price: £1.50
Editor: Clive Bellaby
Address: 7 Brunswood Green, Hawarden, Deeside, CLYWD, CH5 3JA

There are some questions to which the answers may never be known. Like, how was stonehenge built? Do UFO's really exist? What does WACCI stand for. Pardon? What does WACCI stand for? It's one of the best kept secrets, that's for sure. Spooky, eh?

WACCI really is the premier magazine for serious CPC users. Every one of its 32 pages is chock-a-block full of absolutely non-games coverage. In fact, it claims to be the UK's only serious CPC magazine. Probably true, too. Because of the lack of pictures, each page has so many words it takes quite a while to plough through. But it's not a chore. No way. It is one of the best CPC reads available. The latest issue has all of its regular slots: Very Basic Basic, a machine code tutorial, a PIP tutorial (you'll have to read it to find out what it is if you don't already know), and a CP/M tutorial. To balance all these tutorials out there's a fair share of letters. Lots of them in fact. Add to this brew a review and a scathing attack on a certain mail order firm (*I wonder who that could be? – Dave*) and there should be enough to keep you busy for a while.

On the down side is the lack of pictures. WACCI would retaliate by pointing out that it leaves more room for text but illustration can be more than just aesthetic dressing – a picture can say a thousand words, and a decent diagram can notch up a few hundred as well. Despite that the layout is pretty good; one of the best in fact.

Issue 77 has loads of letters and this enables the magazine to convey the same sort of friendly feel as *CPC User*. Joining *WACCI*, as with *CPC User*, gives you access to their PD library, book library, helpline, cheap discs and labels and even discounts as well as the monthly magazine.

But ignoring the extras, *WACCI* is still one of the best magazines around and one which is continuously getting better and better. But the fact still remains that if you're a games fan, you're going to be disappointed.

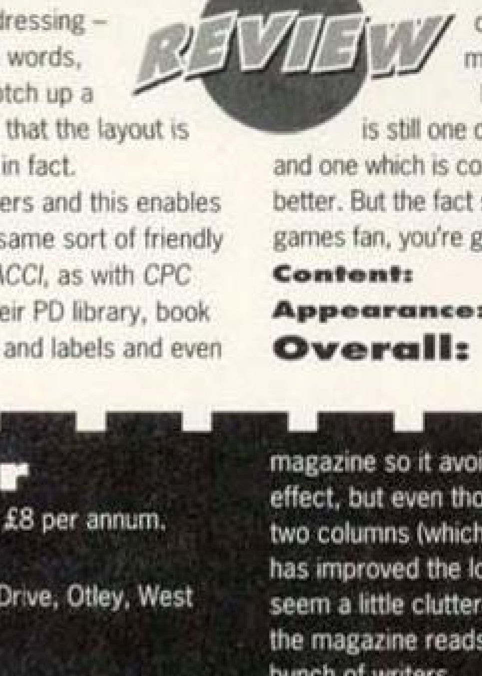
Content: 90%
Appearance: 86%
Overall: 89%

CPC User

Price: £1.50 per issue. £8 per annum.
Editor: John Packham
Address: 2 Wrenbeck Drive, Otley, West Yorkshire. LS21 2BR

CPC User is a bit like *Amstrad Action*, really, except that it comes out every two months, doesn't have any colour and there is a lack of a covertape. But despite all that, it's still a bit like the magazine which has outlasted the rest. So what am I saying? It's pretty darned good, that's what.

Thirty-two A4 pages make up the mag and each page is crammed with serious articles on just about anything. Indeed there is hardly a thing that is not covered. Plus machines, type-ins, reviews, letters and tips as well as a few tutorials are all jammed into the latest magazine so tightly its staples could pop out and bop you in the nose at any moment.



Issue 44 has a different look but unfortunately looks are not CPC User's forte. The same font is used throughout the magazine so it avoids the patchwork quilt effect, but even though the move from one to two columns (which makes reading easier) has improved the looks somewhat, the pages seem a little cluttered in places. Fortunately the magazine reads well and has a talented bunch of writers.

One of the most important things about any magazine is that it has a friendly feel. A user group which seems arrogant would just alienate its readers at the drop of a hat.

Once again CPC User comes up trumps in this area because it is written by members for members and there is continuous interaction.

As with the other 'zine on review this month, there are other benefits of being a member, such as the tape and PD libraries, book library and helplines so it is well worth taking a look.

CPC User is one of the best magazines available at the moment (after *AA* of course) and so I advise you send off a bit of cash to see for yourself – you won't regret it (well, you will if the post office manage to lose your letter; perhaps you better send a cheque instead).

Content: 87%
Appearance: 75%
Overall: 85%

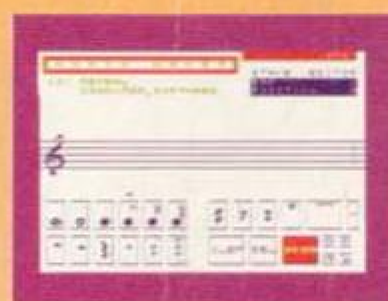
Lets' get SERIOUS

Music maker

Simon Forrester checks out a music package that could make composing on the CPC a lot easier for any 'real musicians' out there.

When *BooTracker* hit the covertape, I pretty much gave up on life. My days were suddenly filled with call after call from readers who couldn't get to grips with the notation system. There are many people out there, you see, who are still used to the proper way of writing music, with notes sitting on a stave. A new software house on the CPC scene has produced a music package to fill this very obvious gap.

Reveal Software's imaginatively titled *Music Maker* works in exactly the same way as most other soundtrackers; it provides a simple to use interface which allows you to write music to put into your Machine Code or Basic programs without having to mess around in Machine Code or Basic yourself.



If you can look at a musical screen like this and not quake in your boots, congrats.

Editing

The package is split up into three sections – the editor, the player and the file creator. We'll start with the editor, then. This is probably the most important and useful part of the package, being the section that allows you to place musical notes on the stave, bolting together your tune in the standard way (crunching through those notes). As an editor it's simple to use, as you simply select the type of note you want (semi-quavers, quavers, and other unintelligible names) and throw it on to the stave wherever you want. A few cut-and-paste facilities allow you to save time programming repetitive sequences.

It's at this point that we really do have to stop and question the validity of this style of musical editor. The reason so many other packages plump for the soft option (vertical lists of notes) is that there aren't many people around these days that can really cope with proper sheet music. This is not a package to buy if you haven't experienced sheet music before – the manual isn't going to go into the huge complexities of sheet music for you.There are plenty of music books about though.

Stave and play a while

If you survive the editor, you'll have some kind of stave file that you'll be ready to play. The fact that the package is on disc means that you can quickly switch between the player and editor to hear and improve your work. The player is where we really run into difficulties, as it means dealing with a slightly unfriendly file-handling system to convert your stored tunes into sound. The interface is quite manageable when you get the hang of it though, but it would have been nice not to have to learn...

Compilation

Finally, we reach the tune compiler, being the system to let you run your tunes in BASIC or machine code. Unlike *BooTracker*, the tunes don't tie up any of the system envelopes, leaving the user free to run riot with sound effects. These effects needn't be isolated, either – the driver has special envelope-handling commands to keep your normal sounds running in harmony with the music. The driver has taken one step that other sound drivers mysteriously forget – the tunes are started, stopped and generally handled with RSX commands, added to BASIC when you load the compiled tune.

At the end of the day, this is a well-presented, fun little package with a few short comings (such as the lack of an envelope editor). Your decision to buy it should run along the lines of, "can I read sheet music?". If you can't, either stay away or buy a music tutorial book, but note-buffs should love it.

Music Demo

Try before you buy. For a demo of *Music Maker* containing screens and music you can send a tape or disc along with an SAE to the address in the Details box.

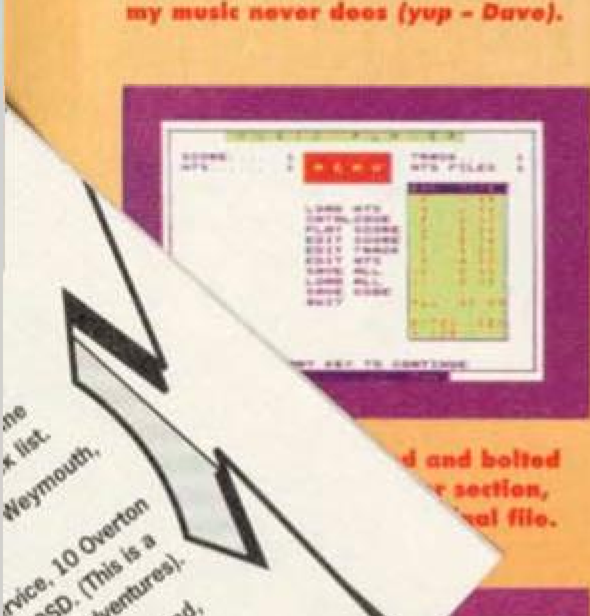
Details

PRODUCT: *Music Maker*
PRICE: £5
AVAILABLE FROM: Reveal Software, PO Box 1818, Redditch, Worcs, B97 4AZ
☎ 0527 597707.
Verdict: A nice music package, but you really do need to be able to read sheet music to handle it effectively.
75%

Take Note



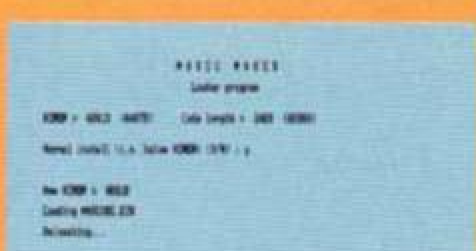
We'll start with a tune. The one I've written won't sound very nice, but my music never does *(yup – Dave)*.



...d and bolted ...r section, ...al file.

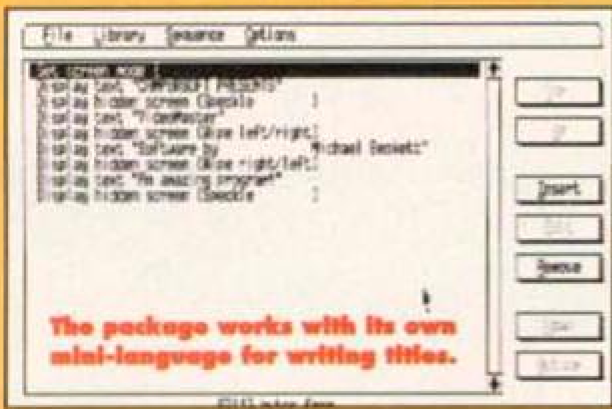


...his compiling is a fairly easy process, as it involves simply pasting tracks on to channels.

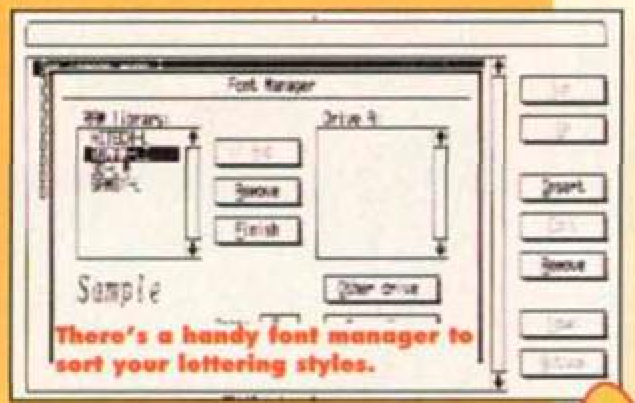


And finally we have the BASIC loader section, that does the hard work of actually playing the tune.

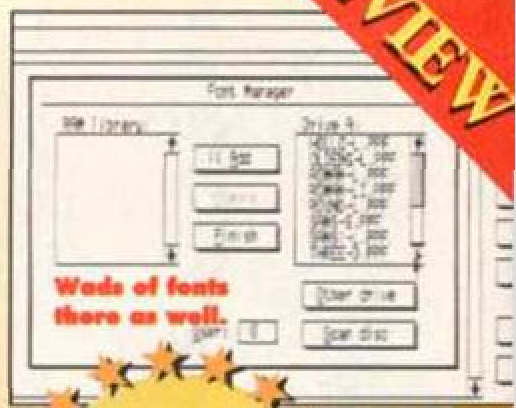
PREVIEW



The package works with its own mini-language for writing titles.



There's a handy font manager to sort your lettering styles.

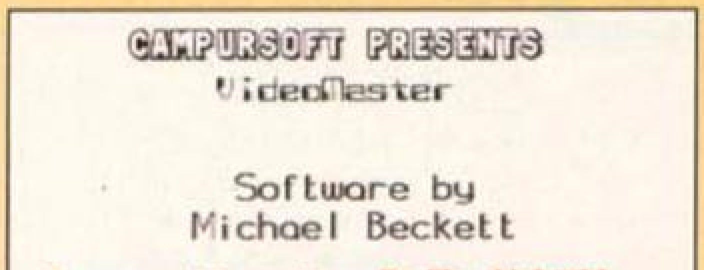


Wads of fonts there as well.

Lets' get SERIOUS

Video titling system

There are a lot of CPC users out there with truly massive video collections. Dave owns nearly every *Star Trek* episode ever produced on video, as well as about a billion other films. But for some people, watching videos isn't half as much fun as shooting them themselves. The problem is that for other people, watching these home-made videos is often half as much fun as shooting them as well.

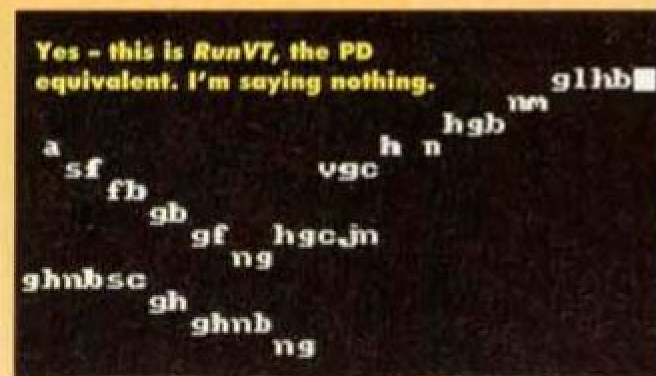


Do you want to create credits like this? With Campursoft's help, you could (in a few months).

But help is at hand. Apart from a course in film-making at your local night school, the other way to add a touch of professional gloss to your home videos is with a video titling package.

And that just the next product due out from Campursoft, producers of *Videomaster*, *Micro Design* and *DES* to name but a few, happens to be. Yes, all you budding film directors out there will soon be able to add title sequences to your masterpieces.

The system lets you edit a sequence of CPC-created text or graphics that can be piped down an Amstrad modulator or other piece of hardware such as Campursoft's own *Videomaster* (featured in *AA88*) onto your video recorder and placed onto video.

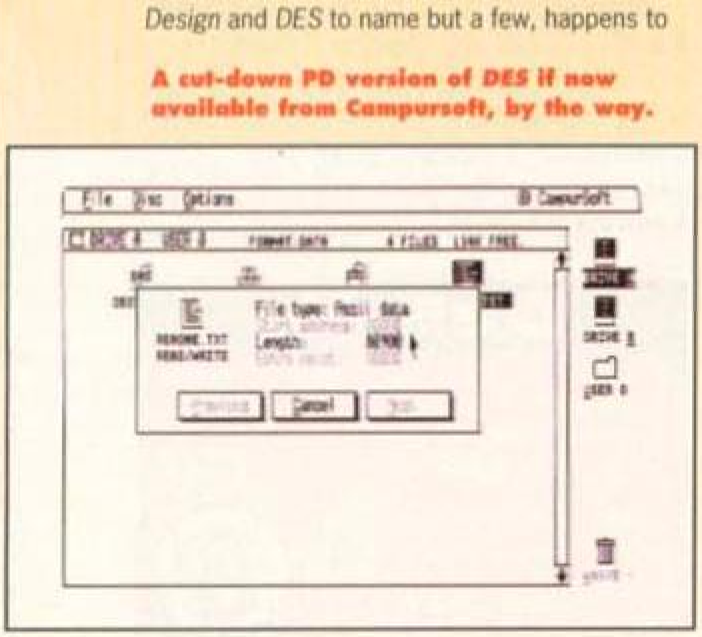


Yes – this is *RunVT*, the PD equivalent. I'm saying nothing.

What you can't do at the moment is overlay the video effects created in this new system onto an existing video picture. For that you'd need a piece of equipment called a genlock, which can combine two electronically created pictures. While we've heard rumours of a couple of these being developed for the CPC, there is no firm news at the moment. So, if anyone thinks they're up to the task, there's an opening in the market now just waiting to be filled.

For more information, you can find Campursoft at 10 McIntosh Court, Wellpark, Glasgow, G31 2HW. Alternatively, you could ring 041 554 4735. If you don't feel like talking to anyone, though, you could wait a few months for a full review.

A cut-down PD version of *DES* if now available from Campursoft, by the way.



Do something

As you may have noticed, every month there are two whole pages of Amstrad Action that have been given over to serious software. In the end, it doesn't matter what it is – we've had music, discs, videos, compression systems, protection cracking packages and ROM software. We cover the lot.

The point is, a lot of programmers don't feel confident enough to write a full arcade game, as this involves some natty feats of programming as well as a talent for graphics, sound and game design. Have you ever thought about writing a serious package though? You can write a program to serve any function you'd want to, and we'll happily review it for you. If you don't want to go into the hassle of selling it yourself though, you could always send copies to a few serious software houses (Campursoft, SD Microsystems etc) and see if they'll take you up.

And here's a challenge – we reckon there's a hole in the CPC market for a decent 3D design package. And a decent sampler (all the one's we know about are as fuzzy as the detritus you find in the pocket of a jacket you haven't washed for four and a half years). One of you lot must be up to the task, so get coding.

News

● There's definitely something going on between Campursoft and Siren software. It looks as if Siren will be bundling a *DES ROM* system into a *HackIt* box, allowing you to flick a switch and boot-up with DES ready and waiting for you. We'll hopefully bring more news on the system soon, but you can ring Siren software in the meantime on 061 724 7572.

● Richard Fairhurst's *AutoRoute CPC* looks to be very near completion as well. In a few months you can definitely expect to see a review of something that should make the lives of all drivers a lot easier. The system works by taking a start location and a destination, and plotting the best route between the two points, taking into account that motorways are faster, London is always packed solid, and Solihull is in Birmingham no matter what anyone tells you. We'll have a cut-down version as a covertape demo very soon, by the way.

ULTRA SOFTWARE

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Justice	£3.45	£4.95

Fluff: Console style platformer utilising "plus" graphics. Given a 90% review in Amstrad Action issue 104.

Ball Bearing: Guide your ball through the maze while avoiding the numerous hazards.

Justice: Graphic adventure "a really good example of what can be done when someone with real imagination sits down to write an adventure" - AA99

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